A Trip to Canada—No. 2.

WE return on our route to pay a passing tribute to the *Descent of the St. Lawrence.*—The landscape gardener may take lessons from nature in its grandest array as he passes the rapids of this mighty river, now more than usually brimming full, spreading across a space sometimes seven miles in extent, and studded by its "thousand isles." The poet might sing of its beauties in as many strains as Tennyson has done in his "*In Memoriam*," and yet fail to convey to the mind the impressions which a glance of the eye imparts. The islands are not, as description might lead one to expect, so near the channel that the limbs of the trees brush the deck of the boat; everything is on so grand a scale that there is room and verge enough for the steamers to ply their trade without contact. Some large and some with less than a rod of land, these islands are beautifully wooded; rarely inhabited, there they stand in their individuality, nature asserting her supremacy, trees growing and decaying, and the wild flower and the wilder bird in perpetual possession of one of the most charming and enchanting pictures which man can ever hope to look upon; pictures which put to shame his own efforts, and make, in comparison, his attempts at the sublime quite inconspicuous. What is "Virginia Water," and what the commonplace efforts at *making* small lakes, when compared with this gigantic stream? Beauty on such a scale requires one to alter all their measurements, and finally to fall back in despair at imitations. We could describe it only as they do the Bay of Naples—See the St. Lawrence and die!

The water, as before remarked, of the lakes above and of this whole water-way, is higher than usual, and has been so for many months. Where a fall or a "rapid" occurs, the appearance of danger, as well as of beauty, is greater than at some periods. As your boat shoots through the worn channels, surrounded by the agitated waters, an unaccustomed visitor almost holds his breath with fear, admiration, and the delight of a new sensation; but the experienced captain and the accustomed hands pursue their usual avocations with no apparent disturbance. Gradually one feels the confidence you acquire in that more dangerous machine, the railroad car. At last the Lachine Rapids are reached, the turmoil around you approaches; even to the eye acquainted with the sight, there is more than usual danger; the perils past are forgotten, and all assemble in breathless attention. Ah! look up at the English captain; he is in front of the *two* pilots at the wheel. His countenance, though calm, bespeaks an anxious thinking. "Gentlemen *must* not stand there, they interrupt our view." Then there is cause for care at least, and all silently obey. One passenger, used to the voyage, assures the ladies, wrapped in profound silence, that it would be impossible, even with steam on (and the paddles are still busily pushing us forward), to get the boat out of the well-known channel. One more lurch, and we are safely launched out of the Lake St. Peter, and hurrying our way past the residence of Sir George Simpson, late Governor-General of the Hudson's Bay Company, and who visited their vast possessions

once every year. What a lovely site; what a world of moving, fresh, brimming water to gaze on by sunlight and by moonlight, in storm, in ice, in snow. Ah! young Englishman, scion of some old house at home, airing your Greek and Latin in the New World, what think you of this? "Think," is the reply, "why I have had the most glorious sport in the world, I have *shot the rapids!*" That *could* not have been *all* he felt, but that was all we cared to hear. Would you worship at nature's own most attractive shrines, visit Niagara leisurely, and *descend the St. Lawrence.* Would you *study* nature, buy an island in it, and there feel your own insignificance; your stay would be lonesome mayhap, but you might feel what Chateaubriand describes as the most agreeable sensation of his hero's life; when, among these scenes, he simply exclaims, "and I enjoyed *a night amid the magnificence of the New World!*" One would enjoy to the full that life's capacities will admit, a night *here,* with the moon in half shadow, the mind one long poem, and the heart's thoughts in heaven.

How one would like, too, to have the Lachine Rapids at the foot of one's garden, and the ocean on its front. The gardens we love so much would yield in interest to the ever active, varying and beautiful scene; but we might discover that *happiness* after all, if it be to be found, is in that to be-cherished spot, the mind, alone. These scenes, these fairy spots, are, however, so beautiful, so entirely those of enchantment, that ever afterwards,

> In vacant or in pensive mood,
> They flash upon the inward eye,
> Which is the bliss of solitude;
> And then my heart with pleasure fills,
> And dances with—

not Wordsworth's "daffodils," but with the *rapids of the St. Lawrence.* All who have seen them may well exclaim, "And we too have been in Arcadia!"

Having passed Montreal (described in our last), the voyage to Quebec, being of less interest, is performed partly in the night. The majesty of the river, before and and after it passes out of Lake St. Peter, is less striking, and the imagination is so full of the beauties of the rapids, that we may be excused for coming at once upon

Quebec.—A walled city will long, we trust, be a novelty to our people; but it is a curiosity, and this sight alone would repay a visit. Historical interest of no common kind attaches to it, but our business is with its surroundings, which space compels us to make brief account of.

John Gilmore, Esq., has a large and beautiful spot at Wolfe's Cove, so named because it is the scene of Wolfe's landing. Evidences of its former history are displayed in a pile of large cannon balls in front of the piazza, taken from the battle-field. The Plains of Abraham are between the mansion and Quebec, and beneath a fine bluff flows the majestic St. Lawrence, with busy men loading numerous huge ships with lumber and produce, for distant European markets. Mr. Gilmore has everything about him in the best and most liberal condition. His stables are models of extent and comfort. The garden, large and well filled, displays a variety of elegant flowers, fruit and vegetables. As much as thirty bushels of gooseberries have been picked from his bushes in one season. They certainly are remarkably fine. Potatoes are produced here of a superior quality, free from the rot. The planting is excellent. For evergreens, there are the black and white spruce, of great age and beauty. Take the views, the cultivation, and the the extent of improvement, with the refinement within doors, and add the

kindness and suavity of the host and hostess, and every one who visits Wolfe's Cove must come away delighted.

James Gibb, Esq., at Woodfield, possesses one of the most charming places on the American Continent. Thoroughly English in its appurtenances and laying out, its views of the St. Lawrence, its lawns, trees, and superb garden are together a model of what may be accomplished. The whole scene was enchanting. The traveller felt as if he was transported to the best parts of old England, and our whole party united in an exclamation of pleasure and gratification. Here is everything in the way of well-kept lawns, graperies and green-houses, out-buildings for every possible contingency of weather; gardens, redolent of the finest flowers, in which bulbs of the best lilies make a conspicuous figure, and every species of fruit that can be grown. Mr. Gibb is a self-made man, is now President of the Quebec Bank, and a very useful citizen. The traveller who does not see Woodfield has not seen Canada in its best trim.

Thomas Gibb, Esq., at Bellevue, occupies the place originally laid out by his brother James, and is in possession of a house with few compeers. His garden is well taken care of, and eminently beautiful and successful, as are his graperies and green-houses, no less than his peach, nectarine and apricot house. In describing the place, our kind cicerone might well say, "There is everything at Bellevue except *dirt*." The front view from the house is obstructed by shrubbery and trees, which if removed would add greatly to the effects. Where lumber is so cheap as at Quebec, one need not wonder at the amount of outbuildings we find at all the first-class places. They furnish sheltered occupation for the long winter months. The best melons, conspicuous among which is the great Lisbon, and grapes were ripening under glass, the quantity of which is quite astonishing. The drive of a mile or more into the grounds here, is through one of the best avenues in America. It is planted with the native evergreens, white birch, mountain ash, and other good trees; and the road being of excellent shale, it compares favorably with a noble drive in Europe. We must not omit Mr. Gibb's large collection of the choicest standard roses ; these are very superb and well-trained. Many of the newer and rarer plants, described lately, are found here.

The St. Foy and Carouge Roads reveal a succession of excellent mansions, with well-kept grounds. We can only name those of *William Atkinson, Henry Burstall,* and *William Price, Esqs.* Suburban residences of great beauty are met with at every turn. New roads, and streets, and houses are everywhere in progress, and attention is specially given to the garden.

The vicinity of Quebec, on both sides of the river, is well-settled. As you ascend towards Montreal, the country and climate both improve—the summer is a month longer. The first frost is expected at Quebec by the 10th of September, and they are consequently cut off from growing many things that at Montreal are successful ; nevertheless, there is much to enjoy. Apples in some situations are abundant.

The Falls of Montmorency are easily reached by a carriage drive, during which an excellent opportunity is presented of seeing the French habitans, and their peculiar houses and mode of life, but these must not detain us. We will, however, look in upon

Dr. James Douglass, adjoining the Lower Canada Lunatic Asylum, of which he is the founder and co-proprietor. Dr. Douglass is emphatically

a man of taste, and of that universality of admiration for the beautiful which makes a country home like his a perfect thing. Evergreens of great beauty and considerable age, make the first impression ; next, a mansion eminently well-furnished with all that Europe can sell, including books, statuary, mosaics, &c., is ensconsed between a first-class conservatory, with the plants in the ground, on one side, and a noble grapery on the other. The view from the drawing-room, through two plate-glass doors, struck us as the finest thing of its kind. The rarest plants in full perfection, the best runners mounting the roofs, and fuchsias, twenty feet high, in perfection, gave an air to the place beyond describing. Altogether Dr. Douglass deserves the highest award of admiration for what he has accomplished, in our power to bestow. *Note.*—In all such establishments, one may be allowed the expression of satisfaction always to see the *Horticulturist* a valued drawing-room guest.

The Lunatic Asylum contains nearly five hundred patients ; so well conducted is it, that it is patronized by the State to the number of about two hundred. Everything that alleviates misfortune is here applied ; modern science and practice are so thoroughly combined, that not a single patient was under restraint. The place is as clean and neat as any hospital in the world.

Up to this point, and still further into New Hampshire, every public table has been supplied with abundance of the small wild strawberry. It is good, but not equal to the cultivated kind, which in time will be more plentiful. The ample native supply seems to discourage cultivators from attempting the sale of improved varieties, but they must and will introduce such as the Albany seedling. Mr. William Brown at Montreal is successful with the improved varieties.

It would be unjust not to record the very kind attentions of *Edward Glackmeyer, Esq.*, himself a good horticulturist, and the esteemed President of the Association of Lawyers, who gave us his time unstinted to the examination of Quebec and its neighborhood.

The White Mountains.—Dr. Gray, and a party of geologists and botanists, were encamped on Mount Washington, pursuing their interesting studies. At the Glen House, July the 10th, snow was visible on some of the higher peaks ; while the citizens of New York were groaning with the hottest night, the visitors and guides were glad to cower over a good fire in a wood stove. It is not within our compass to enter upon the description of these mountain scenes, and we must proceed, still on the Grand Trunk Railway, to

Portland, Maine.—"The early bird catches the worm," is a maxim so old that it needs not to be enforced. Canada is making extraordinary exertions to secure the commerce of the ocean and the north-western trade. She is nearer to Europe than we are, has a broad-guage railroad to tide-water in her own territory, which is continued to Portland for winter use, no less than summer ; it has government aid (as the Horticultural Society has), and altogether it becomes a question whether, with the Galway steamers, we may not see some great diversion of freight and passengers from the old routes. Portland is to be the Southampton of this country ; with greater rapidity of transit from London to Galway, and from Portland to Boston and New York, than can be attained on the ocean, the earliest steamers' *news*, at all events, must be expected via Galway. If the Great Ship now makes her appearance in the deep waters of Maine, there may be a revolution ;

the shortest time and the least sea-sickness will carry the day. A few hours after landing brings the passenger to Quebec or Boston, by a species of locomotion on land preferred by most people, especially the *fast* American. New York must look to her honors; though, indeed, there will surely be business enough for all. We were assured that heavy goods are now shipped to Chicago from New York, via Portland and the "Grand Trunk." Look forward to this road extending to the Fraser River settlements, and the wealth of the Indies pouring through the avenue! There are people alive who may see it. What may not Portland then be? The two wharves for the Leviathan, one for each end, are completed by the liberality of the Portlanders.

The noble elm trees are the theme of every one who visits Portland. They are everywhere, and overshadow and meet across some of the widest streets. Such specimens and such numbers we have never before seen. Graperies and green-houses adorn this most beautiful of American cities. New houses and modern palaces are rising, to evidence the prosperity of this interesting place.

Hon. John M. Wood has a very remarkable structure devoted to flowers and grapes. It is in the town, the whole grounds comprising about two acres.

Hon. J. B. Brown has an elegant grapery and green-house, probably not equalled in the State. He possesses about ten acres devoted to horticulture and agriculture. It is a new place, but most promising.

Hon. J. S. Little has about one acre, with grapery and greenhouse, within a very showy and richly planted place.

T. C. Hervey, grapery and green-house in progress. This is a beautiful estate of five acres.

Hon. William Willis and *George Jewett, Esq.*, have also graperies.

Warren Sparrow, about one mile from the city, has some twenty acres under cultivation, with an excellent orchard, grapery and hot-houses. We might enumerate others, but must hold our hand till a future visit offers more time for minuter inspection.

Homewards.—The ride from Portland to Boston offers glimpses of many good towns and settlements, but a rail car does not afford opportunities for inspection, much less for description. From Boston to New York, via Springfield, the route should be all that a traveller could desire, but was materially marred to us by a patent ventilating car, out of order. The truly uncivil conductor declared he knew nothing about it, and seemed to have no duty to perform but to demand uncivilly his "tickets." Every person within the dismal car was rapidly covered with cinders and dust, from which there was no attempt even to deliver us, though a clean and comfortable car was attached behind, and nearly empty. The only cry was for our tickets, with a careless, nonchalant air, from Conductor *Baker*, who would be pleased if his conduct was represented. This was respectfully done to the President, *Pond*, who gave the document to *Baker*, to answer! and future travellers may now know what to expect in the Springfield cars, and avoid them if they choose. This was the first and last incivility and indignity in a journey of thousands of miles. We record the general attention of the railroad people with pleasure and the contrary with regret, and without any hope of reforming this monstrous abuse. The President resigning to his servant all answers to complaints, apparently can not wish to make a change for the better, for the advantage of his customers.

GIGANTIC GRAPE VINE.*

Much has been written regarding the sizes and ages of trees, and it is certainly a most interesting topic. Measurements of the largest vines in America we have rarely seen ; as a contribution, or beginning, we present a portrait of a native vine, as drawn, at our request, by a most accomplished gentleman and scholar, the late Doctor Samuel George Morton, the celebrated ethnologist, and called in Europe the Humboldt of America by Lepsius and others.

We first noticed this grape vine in the *Horticulturist*, vol. 1, 1847, page 530, as follows:

"Enormous Grape Vine.—I have lately made an excursion to Burlington, New Jersey, for the purpose of obtaining the exact measurement of the most *extraordinary grape vine* I have ever heard of. It stands on a farm called *West Hill*, the property of my late brother, two miles from the city of Burlington, New Jersey, and the truth of what I am about to relate may be readily verified, though in print it may really seem incredible. At three feet from the ground, it measures *six feet one inch* round the trunk, and at ten feet high it is positively *three feet* in circumference ! It is a native male grape, and has been the wonder of the neighborhood as long back as the memory of man reaches. It is still healthy, and its giant folds run over and cover four trees, one of which is a full sized black oak, and the others are quite large.

"The casual reader, as he glances over these unusual dimensions, scarcely realizes the enormity of this vine. Let us try, if we can, to make it comprehensible, by a comparison or two. A string six feet one inch long will enclose two tolerably corpulent people, and these dimensions are as large as a good sized washing-tub. You may thus form an idea of its great growth. This vine grows near a springy soil, on upland, its roots no doubt penetrating to the water. May not this teach us a lesson, to give the rootlets, wherever it is possible, access to a spring or running water. It may be a question, too, whether we do not cut down our vines too much. I observed frequently in England that a whole house was devoted to a single vine, generally of the Black Hamburg, and I think they uniformly bore the finest grapes. To carry a single vine over a large grapery would of course require several years of judicious trimming and management."

The dimensions now do not materially differ from those of 1847. In May last it was measured with the following result: Two feet from the ground it measures 6 feet 2½ inches in girth; four feet high it is about six inches less; it there divides into two branches, the largest of which is 3 feet 3 inches in girth, and the smallest is 34 inches. The largest of the trees which the vine covers is 10 feet in circumference at 2 feet from the ground. The vine is very much decayed, but still puts forth leaves and young shoots. It has never borne a grape in the memory of a lady in the neighborhood, now 98 years old, and who has lived her long life within sight, or nearly so, of this gigantic production, and to whom it was a wonder in her youth. The largest tree is a black oak, the others are black or sour gum.

On pacing the circumference covered by the branches, it was found to exceed 100 feet.

* See Frontispiece.

Vines are recorded of the known age of 600 years. Statues have been carved from grape wood, and pillars made from it; even the large doors of the Cathedral of Ravenna are made of the grape tree. In some parts of Italy, says Miller, a vine is considered young at one hundred years, "and there are plants in existence which have been cultivated 300 years."

Have our readers any greater American vine to record than the one figured?

ORCHARD HOUSES.

It is but a few years since when one had only to plant a peach, or nectarine, or plum, and be quite certain of obtaining the fairest and finest fruit; and we were accustomed to look with great compassion upon our Anglo-Saxon brethren across the sea, who were compelled to resort to walls and espaliers to raise any fruit at all.

The tables have now turned, and the English find far less difficulty in raising the stone fruit than we do; in fact, throughout the largest portion of the United States nectarines and apricots are hardly known, and peaches and plums are becoming so scarce that presently we shall "see their faces no more."

Of late years the extension of the yellows, borer and curculio has become so great that it is hardly worth the labor to plant the trees, for the most active attention produces the most meagre results. In most country places on the Hudson River no nectarines or apricots have been cultivated for some years, and most of the plums and peaches are cut down and not allowed to cumber the ground any longer. If there are remedies for these afflictions, the doctors at any rate have not found them out, and though we have many theories for the yellows and remedies for the curculio, yet we are satisfied there is nothing yet discovered that for general purposes is at all available. The white-washing process is extremely tiresome, for the labor of several days is most often washed away by a shower of five minutes; and if the shower comes late in the afternoon or at night, a great deal of fruit is stung and much damage done before the white-wash is renewed the next day, and you are always liable to the same difficulties after every rain.

The second method, of picking up the stung fruit morning and evening, after shaking the trees, is not a whit more effectual, unless the whole country should all agree to do the same thing, because when you have destroyed your own curculios, you are not the less free from the visitations of your neighbors'.

Under these circumstances, with an impossibility of growing the stone fruits out of doors, the question is now universally asked, "How can we have peaches, nectarines and apricots again?" and the answer is, by means of what the English call orchard-houses, which are now very generally getting into use in Great Britain, and can be put up there, and we suppose here also, at comparatively little cost. A writer in the English Gardeners' Chronicle, 15th May, 1858, estimates the cost of an orchard-house, 30 feet long, 12 feet wide, 9 feet high at the back, and 3 feet three inches high in front, to be about £13 or $65, in which all the stone fruits are cultivated with the greatest success, in 13-inch pots.

Some orchard-houses have been recently erected on the gardens at Whitehill, in England, which are arranged as follows: The 1st house, 3 feet by

16 feet, is planted with plums, cherries and pears (standards), with the same varieties in pots, set upon the ground; 2d house, 40 feet by 10 feet, planted with standard apricots and plums; the 3d, 32 feet by 20 feet, with vines and figs in pots, set upon the ground; the 4th, 36 feet by 22 feet, and 18 feet high, planted with standard peaches; the 5th, 32 feet by 20 feet, planted in vines; 6th, 40 feet by 10 feet, planted in pears, and the same kind of tree in pots set on the surface. All these houses are span-roofed, ventilated at top and bottom, heated by hot water pipes. The range is glass on all sides, to within 2 feet of the ground.

The trees in pots were only planted the previous year, and the number of fruit set on each were as follows:

Pears.—Knight's Monarch, 174; Bon Chrétien Fondate, 84; Louise Bonne, 76; Williams' Bon Chrétien, 69; Marie Louise, 95; Duchesse d'Angouléme, 64; Glout Morceaux, 112.

Plums.—Green Gage, six trees, averaging 170 each; Angelina Burdett, 300.

Cherries.—May Duke, 12 trees, 370 each; Elton 275; Bigarreau, 215.

Peaches.—Noblesse, 86; Bellegarde, 80.

Nectarines.—Hunts' Tawny, 78; Violette Native, 84.

Apricots.—Moor Park, six trees, 90 to 100 each; Peach Apricot, 70; Breda, 70 to 80.

The peaches and nectarines, as standards, 60 to 70 each.

Apricots, standards, 20 to 30 each. Plums, 70 each.

In the United States, there are not, as yet, to our knowledge, any houses erected distinctly for this purpose, and with the uncertainty of our climate, the tendency of nectarines and peaches to the yellows and borer, and the singular affection so peculiar to apricots, with which a tree, apparently in the fullest health, is suddenly stricken down, we should doubt the advisability of planting standards; but, instead, we would recommend pot culture, which we have tried in a simple green-house for some years back, with the greatest success. Any of the stone-fruits planted in the spring in 3 gallon (11-inch) pots, and transplanted the succeeding autumn into 5-gallon (13-inch) pots, for fruiting, will produce blossoms and fruit the succeeding year, if properly managed; care being taken to admit plenty of air when the fruit is setting, and not to allow the plants to get dry at the root when the fruit would be apt to fall. The trees should be planted in very rich compost, especially when bearing, and well packed in. A system of top dressing is also of the greatest importance, to enable so small a plant to carry such a large quantity of fruit to perfection. For this purpose, a thick layer of old, well-rotted manure, of the strongest character, should be kept on the surface of the pots as mulching; a few pinches of guano occasionally scattered over this would not be amiss. This top dressing not only prevents evaporation—for it is of the utmost importance to keep the roots moist when the plant is in full vigor—but the products formed from the decay of this dressing, when washed down by the daily watering, conveys to the roots just the character of food most proper for them.

Trees planted and treated in this way, only three or four feet high, last many years, affording the most gratifying returns, and can, in case of accident or death, be very easily replaced: whereas, when a tree, as a standard, trained against a back wall or trellis, is lost, a serious gap is made, and many years are required to replace the damage.

So satisfied have we become that this is the cheapest, in fact, the only way now to grow, or rather fruit, peaches, apricots and nectarines, that we have converted a double curvilinear-house into an orchard-house, 70 feet by 20 feet, and 12 feet high; erecting a platform in the centre, the whole length, which is sufficiently wide to accommodate one row of trees. On either side are two other platforms, each wide enough for two rows of trees, thus enabling us to grow and fruit about 250 trees of the different varieties, which always produce a great quantity. We have introduced hot water into this house, for the purpose of forcing a little, so as to secure the setting of the fruit and its reaching some size before the appearance of the curculio, which is sometimes found inside of fruit-houses, having passed through the ventilators. By keeping your potted trees in a cellar, or back pit, or, in fact, any place where they are not severely frosted, and by introducing them by tens and twenties once every 7 or 10 days into the house, from the 1st January, or later, the season can be very much prolonged, and there is certainly no cultivation so simple producing greater results, or one, we think, which will be more generally adopted when known, even by those who only can afford the least expensive kind of house. WODENETHE.

NOTES ON NEW AND RARE PLANTS.

BY DANIEL BARKER, SPRINGFIELD, MASS.

Clematis Lanuginosa, var. Pallida.—One of the most beautiful half-hardy climbers yet introduced. It is very remarkable for the immense size of the flowers, measuring from six to ten inches in diameter; a small plant now flowering here has one flower, fully expanded, eight inches in diameter. Its habit is very similar to Florida, and will, therefore, be admirably adapted for trellis work, verandahs, and other similar structures. In the Southern States it will undoubtedly prove perfectly hardy, and will be a most valuable acquisition wherever climbing plants are grown.

Ipomea Hederacea, Superba Grandiflora.—A splendid addition to the genus Ipomea. Flowers very large, light blue, with a beautiful white border. This beautiful variety is well adapted for summer duration in the conservatory, or upon trellis in the open air. Annual.

Cereus Bonplandii.—A large, high-flowering Cereus. Flowers which have lately expanded here measured twenty inches in diameter. It is a most attractive thing when in bloom, but remains in perfection only a few hours.

Dianthus Albo Nigricans.—A fine garden variety, and a very useful plant for forcing in the early spring months. Flowers dark maroon, edged with white, and remarkably fragrant.

Hebeclinium Janthinum.—A very beautiful, free-flowering stove plant, bearing large trusses of bright lavender ageratum-like flowers, which remain in perfection for several weeks.

Fuchsia Souvenier de Chiswick.—A splendid variety of this elegant genus. Tube and sepals, light crimson; the corolla a beautiful dark violet, reflexed quite back to the seed vessel. Flowers very large.

Fuchsia Catherine Hays.—A very fine variety. Sepals and tube light scarlet; corolla a beautiful light blue; sepals very finely reflexed.

The flowers of the above two beautiful varieties are of a very improved

form and substance, rendering them very desirable kinds for the greenhouse or open air culture.

Gloxinia Erecta, Alice Louisa.—A very ornamental variety of the erect flowering gloxinia. Centre of tube pure white, with circle of bright crimson extending three parts of the way up the sepals.

Gloxinia Erecta, La Belle Jane.—A very large and beautiful variety. Tube pure white; the sepals suffused with bright, delicate carmine and rose. Quite new.

HYBRIDIZING FRUITS.

BY T. M.

I AM very glad to see, Mr. Editor, the prominence your valuable journal gives to such interesting subjects as that of Mr. W. N. White, in your August number. It would not become me, as a practical man, to depreciate the value of mere practical articles; they are highly useful and very instructive; but, at the same time, if ever our profession is to rise to the dignity of a science, it is essential that we should be able to give a reason for all things. With practice on our right hand, to observe and to do, and on our left theory, to investigate and arrange, we may hope to arrive at just conclusions much earlier and easier than by either alone.

I am one who has hitherto had great faith in the efforts of the hybridizer to ameliorate our fruits, as they have already done the beauty and interest of our flowers. Mr. White's paper, tending to show the impossibility of such improvement, is so ably and forcibly written, that I am afraid it will induce many projected experiments to be abandoned. I think such a result is to be deplored, and I would like to offer a few suggestions, *per contra*, to his remarks.

My greatest objection to your correspondent's conclusions is, that they are for the most part derived from the observations of authors who wrote when the art of hybridizing was in its infancy. Mr. Knight, Gaertner, and others, with their leisure and love of the subject, had they lived to the present day would probably have come to different conclusions than their first experiments warranted.* Decandolle, Gray, and the other authorities quoted, are indeed still living, but their quoted works are either of some years' standing, or their ideas founded on Knight's, or other parties, ancient experiments. One authority quoted, for instance, Dr. Lindley, has more recently asserted (Theory of Horticulture, p. 691), "but facts prove that undoubted hybrids may be fertile." Since the doctor wrote that, we not only have learned that hybrids *may be*, but actually are fertile. I have at the present writing, seedlings of the Veronica "Imperial blue," a variety three, four, or more generations removed from an original hybrid between V. Speciosa and V. Lindleyana, or Salicifolia. I have raised a brood of Fuchsias, between F. fulgens and F. longiflora, two species as widely distinct as it is easy to suppose any specific terms to characterize; and from some of this progeny again to reproduce seedlings, though I am bound to admit some of them produced berries with great difficulty. So, also, other parties have had the same experience.

* Even ten years ago it was thought that Orchidacea did not perfect their seed. Every experiment to raise them failed. Now they are not considered difficult to raise, and even to hybridize, not even *genera* standing in the way, as a hybrid is recorded between *Epidendrum aurantiacum* and *Cattleya Skinneri*.

The different species of tropical *Begonias* have been found to hybridize together so easily, and their progeny again to hybridize and reproduce, that it is impossible to foresee where it is to stop. The same may be said of the *Bouvardia* and *Achimenes*. In the latter case, indeed, it is not only difficult to decide which is a species, the genera themselves seem lost in the confusion. Hybridizing has, in fact, quite swamped *Sinningia* into *Gloxinia*, and since the introduction of the Central American species of *Achimenes*, it is hard for a systematic botanist to go into a good garden collection and fix which genus of gesneracea some of them may belong to.

Systematic botany, though it may be termed a "natural system," is purely a work of art,; and if we "could without limit produce crosses," it would not so much break up the "orderly arrangements of nature" as it would, perhaps, the systems of Lindley, Decandolle, or Gray. It is not yet agreed upon what constitutes a true species, and genera are confessedly artificial. If two species, so called, will not intermix, they may in time come to be considered as of different genera. In the *case* of the gooseberry and currant, for instance, which Lindley could not intermix, some botanists make distinct genera, calling the gooseberry section *Grossularia*, and the currant *Ribesia*. The progress of horticulture has quite broken up the old theory of a species, namely, that it was an individual form by which "*like* could be again reproduced from *like*," as we now know that varieties of both form and color can, with a very little care, be again reproduced from seed, and after one or two generations becomes as permanent as the species it originated from, reproducing as exactly "like from like."

Many of Mr. W.'s objections as to what has not been done are not conclusive as to what may be. For instance, that diœcious plants should in Lecoq's time be found less easy of hybridizing than hermaphrodie ones, may be that so much attention may not have been paid to them. Quite recently we find an hybrid amongst the Pinacea, which we should suppose, from many circumstances, much more difficult to realize than in the grape. The *Thuja meldensis* is said to be a hybrid between *Juniperus Virginia* and *Biota Orientalis*, two very distinct *genera*, and any one who has seen it growing will not for a moment doubt the fact. Whether it will also produce perfect seeds or not I am not aware.*

It is scarcely parallel to illustrate the subject by the mule in the animal kingdom. We can readily suppose that in the animal department of the organic portion of nature, the structure is so very complicated, and so much more perfect, as to place many more checks to variation from normal types. Animal nature is not so easily affected by cross-breeding, or any circumstances, as a plant is. We may look in vain among animals for anything like so great a change in appearance, by any amount of "cultivation," as that process has made on the cauliflower, for instance, which has been "improved" from a wild plant, more resembling the common mustard in appearance than anything else.

I think Mr. White's quotation that Mr. Knight could not get the Duke and Morello cherry to hybridize, is an error. If I am not mistaken, he succeeded in the union, but the progeny did not seed, though they flowered freely. This, and the few other cases on record of experiments with fruits, does not certainly give great encouragement, but on repetition, under other circum-

* One of our best practical living botanists, Mr. Charles J. Wister, of Philadelphia, has assured me that in his neighborhood *Juglans cinerea*, *J. regia* and *J. nigra*, the black, white and English walnuts, hybridize together, and that specimens of the hybrids bear fruit near him.

stances, might do better. Many experiments fail, that with a slight variation have after all succeeded. The art of hybridizing is ill understood; every day new facts are being developed. It is but quite recently asserted that two plants, hybridized when in a high state of culture, under glass, do not produce the same progeny as the same plants, comparatively neglected, hybridized in the open air; and that the more artificially the plant is treated the more easily can the hybridizer operate on it. And this is but one of many facts that may yet have considerable influence in the progress of the art.

No one will contend for the superiority of cross-breeding over mere improving, but if it can be effected it would be a natural step towards improvement. By crossing a pound pear with a seckel, we should "mix" the flavor of each in the progeny. The pound pear would thus be produced a little smaller perhaps, but something towards the flavor of a seckel, and by saving the seed of the finest of these seedlings (providing, of course, they proved to seed freely,) for a few successive generations, a late, large pear, with a seckel flavor, might be produced.*

I trust that the hybridizers will still continue their experiments. The native and foreign grapes are botanically very closely allied, much more so than the gooseberry and currant, raspberry and blackberry, or the apple and the pear; and they may, like species of fuchsias and veronicas, hybridize and prove fertile, and from this progeny improvements may again arise; but if not, we shall learn something which, even as knowledge merely, may be of great service to us in other affairs.

GRAPE BORDERS.

BY WILLIAM CHORLTON.

The observant remarks, and questions asked, respecting the culture of grapes, by your correspondent S. Miller, in the June *Horticulturist*, reminds us that established rule is not always a sure guide although it may be the best in the majority of cases.

As to trenching, when rightly performed, and also a moderately rich soil, we have demonstrated fact of the good and permanent effects, but this does not assist any argument in favor of deep and over glutted beds for the roots. With regard to the roots creeping "between wind and water," as he intimates, the cause is clearly seen if we take a right view of the subject. No plant feeds directly upon a mass of undecomposed matter, however rich it may be as a compound, but does so from the liberated elements in a gaseous state and different proportions, in combination with water. The stratum through which the network of fibres has to penetrate need not of itself contain originally the required pabulum for permanent nourishment, but should always be of such a character as to enable them to penetrate through it in search of the required nutriment. Consequently a proper matrix, even though it be deficient in fertility, is, so far, better than an improper one that is gorged to repletion with what, under other circumstances gradually administered, would support the most healthy action. We may admit that according to the different constitutional properties of distinct

* The fine race of Pine Strawberries is, if my memory serves me right, the result of Mr. Knight's experiments in hybridizing the Surinam with the Chili.

genera the soil needs to be of various mechanical textures, and to a certain extent composed of different chemical combinations, but this does not alter the subject. We may preach as much as we like about our superior skill, yet, depend upon it, if we do not copy from nature's best workings we only grope in the dark ; now we find her invariably giving fresh material from above, the decay of surface vegetation, the falling of leaves from the trees, and, no doubt, the percolation of carbonic acid from the atmosphere down and into the soil ; these two former compose a covering of material for the protection of the roots, and all three are eventually resolved into suitable food, and in proportions as may be periodically required. Again when the land is well drained, either naturally or artificially, there is always a capillary attraction going on, excepting during severe frost or rain, which draws the moisture upwards. From this we may readily perceive why mulching is so beneficial provided it contains the required elements, because decomposition is continually at work immediately beneath, and where the oxydizing and liquifying properties of the atmosphere and water can act, and furnish to the spongioles their just need, while they, obeying the law of self preservation, follow, the same as an animal by instinct, and increase proportionately.

It is high time that we begin to discard all such set notions as glutted and deep beds for the grape vine ; they belong to an age of nostrums, dogmas and ignorance. The reiterated recommending of such things has done more to retard the successful cultivation of this plant than all other mischievous pretensions put together. In my Grape Grower's Guide I have endeavored to break down this evil system, and in my own practice even for the glass grapery, the borders are not sunk more than eighteen inches below the surface, neither are they made more than in a medium way rich in fertilizing matter; but each season there is applied a good dressing of half decayed leaves and vegetable refuse, mixed with a portion of barn yard manure, by which the roots are kept near the top, and absorb the whole of the annual dressing during the season.

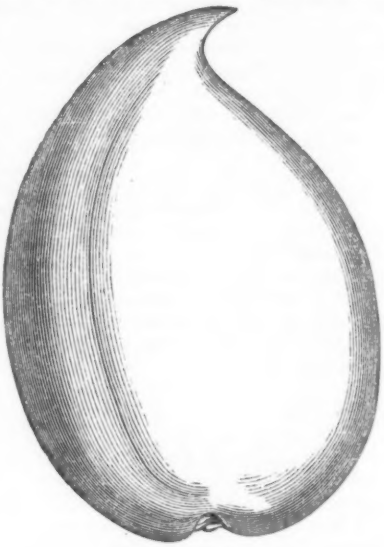
Your correspondent further suggests, that in connection with mulching, "less trimming" would pay better. I believe we have ample evidence in the truth of this in most instances as the thing is too often practised, but the experience of all good cultivators tends to show that a judicious shortening, and thinning out of a portion of each season's growth, so as to allow a continual increase of surface, is of service, and improves the quality of the fruit ; while on the contrary we have many examples of untimely imbecility in many grape establishments which testify of the injurious effects of the stumping in systems that are frequently adopted. I have for many years contended against this barbarous principle, and am glad to see it mooted. In addition to the importance of pruning, is a proper care for the healthfulness of the foliage ; no fruit bearing plant will ripen first quality produce, when these are deficient in quantity, or become prematurely injured.

My experience advises, to make the basesoil fertile, but not too rich or deep. Drain below, and mulch above. Let the head gradually cover more surface, but shorten in a portion. And, above all things, endeavor to keep the *leaves healthy* and in sufficient quantity to *shade the fruit* from the sun.

THE HONEY PEACH.

Well may this fine fruit be termed the "Honey," as it is, undoubtedly, the sweetest of all peaches.

Its shape is very peculiar, being a long oval, with a sharp, recurved point at the extremity. The stone is of the same shape, having also a long, sharp curved point. The fruit measures about three inches in length, by about two inches in diameter. The color of the skin is a light green ground, mottled, waved and striped with deep crimson, gradually fading into pale red.



HONEY PEACH.

The flesh is very fine, tender, juicy, with some red veins, mostly around the stone; not very high flavored, but of a peculiar, most delicious, honeyed sweetness. It is a perfect freestone.

The tree is a very vigorous grower, very productive, and perfectly hardy, many young trees two years from the bud, in the nursery rows, having yielded from two to four peaches this season.

The leaves are small, resembling a very ordinary wild seedling, with small globose glands, sometimes hardly perceptible.

The season of ripening at the South is from the middle of June to the 1st or 10th of July. It is a seedling from Peach stones brought from China some years ago, and planted by Chas. Downing, Esq., who sent grafts to Henry Lyons, Esq., Columbia, S. C. The graft put in by Mr. Lyons was the only one which survived, Mr. Downing's seedlings having all failed. The original tree is still in Mr. Lyon's garden, and in good condition, and will, we learn, be propagated by Messrs. P. J. Berckmans & Co., of Augusta, Georgia. Mr. Lyon takes great interest in horticultural pursuits. He is in possession of the original Herbemont grape vine, still growing in his own fine garden, planted by Mr. Herbemont, years ago, and yielding a most delicious fruit, small, but perhaps superior to any native Southern grape.

INSECTS UPON THE LARCH—WHAT ARE THEY?

In passing a fine young larch a few moments since, I discovered the first appearance this year, of an insect which has infested the same tree for the two previous seasons. It is a small, downy bug, about the size of a pin's head, resembling somewhat a very small mealy-bug, but instead of fortifying

itself in the axils of the leaves, as is the custom of the latter pest, it is spread abroad upon the young leaves, which are just attaining their growth. The tree does not appear to be injuriously affected by it, but has a very unsightly appearance, being, before their disappearance, (which will take place in a few weeks,) quite studded over with these white specks, and looking somewhat as if it had been exposed to a small snow storm. What is the insect and the remedy?

A few years since the same, or a similar insect, appeared upon the balsam firs, of which there are some fine specimens in the vicinity, and infested them to such an extent, that the branches most affected were quite whitened with them. Of late years I have seen none of them, however, and am inclined to think that they disappeared as they came—on their own responsibility.

June 25th. JNO. B. EATON.

SOUTHERN POMOLOGY.

THERE has been a delay in publishing the Ad-interim Report of the Georgia Pomological Society, which we copy below, and shortly we shall insert the report of the annual meeting of the Society, kindly forwarded by the able secretary Mr. W. N. White. It gives us pleasure to see that Mr. Berckmans has been elected to the office of its President. No other man could fill the chair so well.

SOUTHERN FRUIT. — REPORT OF AD-INTERIM COMMITTEE OF POMOLOGICAL SOCIETY OF GEORGIA.

HON. MARK A. COOPER, PRESIDENT: *Dear Sir*—The Committee *ad-interim* of the Pomological Society of Georgia, would further report that the following Fruits have been submitted to them for examination:

APPLES—*Ellijay*—Fruit large, rather oblong, somewhat irregular, skin smooth, lemon yellow, with patches of greenish russet, sprinkled with small black dots, often with a bright blush in the sun, calyx closed (?) in a rather shallow basin, stalk short, in a narrow cavity, core large, seeds light brown. Flesh white, fine grained, tender, of mild sub-acid, second rate flavor. From J. Van Buren, Clarksville, Ga. December.

Southern Golden Pippin.—Fruit medium, oblate, skin yellow, brownish yellow in the sun, spinkled with russet flecks and dots, calyx open in a very shallow basin, stalk very short, in a broad russetted cavity, core medium, seeds dark brown. Flesh yellowish, firm, with a peculiar slightly acid flavor, good. November to April. From Mr. Van Buren.

Pound Cake.—Fruit large, oblate, inclining to conic, flattened at the base, skin dull yellow, pretty much covered with patches of greenish russet, calyx small, open in a small regular basin, stalk stout, very short, in a broad, shallow cavity. Flesh nearly white, firm, of a rich, lively acid flavor. Very good. From Mr. Van Buren. November and December.

Wattagah.—Rather large, roundish oval, narrowing to the eye, skin light yellow, russet at the base, nearly covered with very dark crimson, calyx large, nearly open in a shallow, ribbed basin, stalk short, in a broad shallow cavity, seeds light brown. Flesh white, crisp, juicy of a brisk rich acid flavor. Very good. December and January. From Mr. Van Buren.

Kettegeskee.—Fruit medium or less, form regular, oblate, tapering

slightly to the eye ; skin light yellow, with a few dark dots and specks, sometimes a little russetted about the stem ; calyx open in a shallow basin, stalk slender, in a broad shallow cavity, seeds dark brown. Flesh yellowish white, crisp, juicy, pleasant, brisk acid. Very good.

Logan-Berry.—Fruit large, ovate, somewhat onesided and slightly ribbed ; skin yellow, a little russetted, with a brownish cheek, sprinkled with crimson dots ; calyx large, open in a medium basin, stalk short, in a rather narrow, irregular cavity. Flesh yellowish, juicy, crisp and a pleasant sub-acid flavor. December. From Mr. Van Buren.

Santouchee or Panther.—Fruit large, oblique, inclining to conic, sometimes oblate ; skin smooth, pale yellow, sprinkled with a few brown dots ; and somewhat marked with patches of greenish russet ; calyx large, open in a narrow basin, stem slender, in a deep narrow cavity. Flesh white, tender, with a peculiar but rather pleasant sub-acid flavor ; seeds light brown ; quality good. November and December. From Mr. Van Buren.

Duckett, Equinetely, Berry, Bachelor, Maverick's Sweet, Camak's Sweet, Berry, Cullasaga and Nickajaak, were also received, with the above, from Mr. Van Buren. They are among the very choicest of our Southern varieties, but as they are already described in the new edition of Downing's Fruits, a description by the Committee is unnecessary. Some of the apples sent us by Mr. Van Buren, he informs us, were obtained from Mr. S. McDowell, of Franklin Co., N. C. We should be glad if M. Van Buren would give the public the history and origin of each of the above, and indeed all our best Southern Apples, as he is the only person living that can fully supply the desired information.

Thurmond.—Fruit small, oblique, flattened ; skin yellow, washed with red in the sun, sprinkled sparsely with large dots ; stalk small, rather short, inserted in a narrow regular cavity ; calyx large, closed in a broad corrugated basin. Flesh yellowish, firm, moderately juicy, mild sub-acid ; good. January and February. From Peters, Hardin & Co., Atlanta.

Forsyth Seedling.—Fruit medium or large, oblate, inclining to conic, somewhat oblique ; skin of the specimen received, except the cavity, entirely overspread with bright crimson, sprinkled sparsely with large white dots ; stalk small, short, in a narrow russetted cavity ; calyx medium, partly closed in a shallow basin. Flesh nearly white, tender, with a nearly sweet aromatic flavor. Very good. January and February. From Peters, Hardin & Co.

Green Crank.—Fruit large oblate, scarcely oblique, inclining to conic, flattened at the base ; skin greenish yellow, dotted and partly overspread with greenish russet; stalk small, short, curved, in a broad shallow russetted cavity ; calyx closed in a small regular basin. Flesh white, crisp, abounding in a lively acid juice. Very good. December to March. From Peters, Hardin & Co. This and the preceding are excellent apples, and the last is particularly stated to be a productive variety.

Said to be the same as Kentucky Streak.

Bradford's Best.—Fruit rather large, oblong, slightly conic, somewhat oblique, obscurely ribbed ; skin dull greenish yellow, striped with dull red, sprinkled with black dots ; stalk short, in a deep narrow russetted cavity ; calyx closed in an abrupt basin ; core large. Flesh white, tender, moderately juicy, with a pleasant sub-acid flavor, sometimes mealy when over ripe, but in its best state very good. From Peters, Hardin & Co. This apple we learn has been grown successfully the last twenty-seven

years, near Memphis, Tenn. The tree is upright, vigorous and productive. The fruit has been kept at Memphis, until near April, and is there considered the best winter variety. At Atlanta it also promises well.

English Crab.—Fruit small, flattened, oblique ; skin yellow, nearly overspread with dark red, sprinkled with large whitish specks and small black dots, stem medium, curved in a medium sized cavity, calyx large, open in a shallow basin. Flesh deep yellow, tender, with a very mild sub-acid flavor, very good. January. From Peters, Hardin & Co.

From the same parties also were received the Shockley, which is the best keeper we have, lasting without trouble until a new crop of early fruit ripens, and the Limber Twig nearly as fine a keeper ; both of these are described in Downing.

Of the apples above described, we believe that if sufficiently productive, Wattaga, Logan-Berry, Pound Cake, Green Crank, Forsyth Seedling and Bradford's Best are worthy of general cultivation.

CHERRIES.—*De Kalb Cherry.*— A fine sprightly, very early variety of the Duke Class, which we believe entirely identical with the May Cherry of this place. The latter was raised from seed, brought by Hon. W. H. Crawford, from Paris. It is a late blooming variety and hence of ten succeeds, as in 1857, when others fail of a crop. Begins to ripen with May. This should be in every fruit garden. From Peters, Hardin & Co.

Bigarreau Cherry, as described in Downing ; of this fine specimens were received, May 31, from J. Van Buren.

Fine specimens of the Elton, Gov. Wood and Holland Bigarreau have been grown here, but the trees are generally short lived, and the birds get most of the fruit. Reine Hortense, Kentish, May Duke and Plumstone Morello do better ; but the common small Morello succeeds better than any other variety.

All of which is respectfully submitted.

WM. N. WHITE, Chm'n.

Athens, July 1st, 1858.

ANDROMEDA ARBOREA.

BY ALAN W. CORSON, MONTGOMERY COUNTY, PA.

I RECENTLY found several Sorrel trees (*Andromeda Arborea*) growing upon a steep hill, which I estimated at about 500 feet in height, on the south side of the Ohio river, opposite the city of Portsmouth. The greater part of the trees were from ten to twenty feet in height and rather slender, of very luxuriant growth, and several in full flower. The range of the hill is parallel to the river, its top a narrow ridge, in some places but a few feet in width, very steep on the side next the river, probably not varying more than 30° from perpendicular for half the height nearest the top, the soil apparently very dry, the rock where it appears being fine-grained, light-colored, and apparently sedimentary. The trees that were seen grew on the north side of the hill, near to the top (no examination being made further down) ; probably 15 were observed in 100 yards distance. The latitude of the place is 38° 40′, or thereabout, and their growing naturally there at such elevation and exposure to the north, with only the shelter of oaks and other deciduous trees of rather small size, and so thinly scattered

as to afford but slight protection, would seem to render it probable that it may be cultivated in many situations, probably up to 42° of north latitude, with little risk of its suffering from the severity of the cold. As a small ornamental tree, it is very beautiful when in leaf only, and when in flower it is scarcely surpassed by any shrub or small tree in cultivation within the latitudes mentioned. I am aware that there is one, and perhaps more fine trees of this species at the Bartram garden, near Philadelphia, but it occasioned some surprise to find those in the situation mentioned above, and I forward this notice in hope that the attention of cultivators and amateurs may be turned to its propagation and culture, as a beautiful shrub or small tree.

PLAN OF HUNTING PARK,

BETWEEN THE BUILT PART OF PHILADELPHIA AND GERMANTOWN.

BY WILLIAM SAUNDERS, SUPERINTENDENT.

To J. Jay Smith, Esq.,—In fulfilment of a promise made you some time ago, I now hand you the design for the improvement of the Hunting Park, of Philadelphia, submitted by me in the fall of 1856. In order that the appropriateness of the design may be better understood, I will briefly describe the ground:

Hunting Park is about forty-six acres in extent, of an awkward, irregular outline; surface so flat that the level does not vary more than six feet throughout the whole extent; and, with the exception of about a dozen large hickories and oaks, was wholly destitute of trees or bushes, and so low, with reference to the surrounding country, that no distant views are obtained.

I have purposely omitted all references in the plan, and I may further add that the present engraving has been executed from a very imperfect photograph, which accounts for the indistinctness of many of the points, more particularly the entrance-gates, keepers' house, pavilions, summer house, fountains, &c. I have also materially abridged the description which accompanied the design, as it would be too lengthy for your pages.

W. S.

Plan of Hunting Park.

"To ascertain principles of action, it is necessary first to consider the end in view."

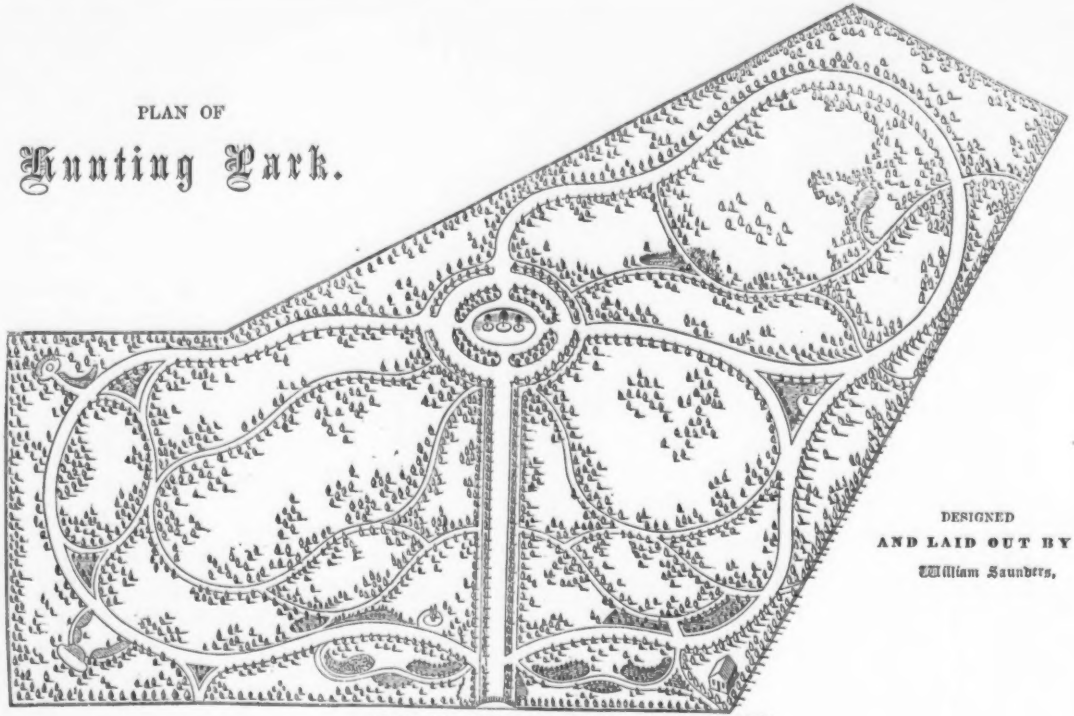
The object of a city park is chiefly to afford the inhabitants means and facilities for healthful recreation. It should, therefore, be provided with ample shaded walks, rendered interesting by the arrangement of natural scenery, and such works of art as are in keeping with the locality.

This park, commanding no distant views, and not having within itself any striking features, it is evident that "variety and interest" must be accomplished wholly by the grouping of trees and shrubbery. Bold or striking architectural features, while they are unnecessary, would also be out of keeping with the situation. All necessary buildings should, therefore, be simple and expressive in design, altogether free from any approach to ostentatious display.

Hunting Park is too limited in extent for the formation of a distinct "Arboretum." This is not, however, much to be regretted, as the planting

PLAN OF

Hunting Park.



DESIGNED
AND LAID OUT BY
William Saunders,

PLAN OF HUNTING PARK, PHILADELPHIA.

may be so varied as to embrace all hardy and useful trees; the same reason may be adduced in reference to a "Botanical Garden." Indeed, under any circumstances, it is questionable whether a garden of this description is fitted for a public park, under city government. These institutions, to be of real usefulness, must be accompanied with lectures on botany, &c., controlled by an efficient professional government. A mere botanical collection of plants, without these applied accessories, would be about as instructive to botanical students as a mere display of chemical apparatus would tend to the study of applied chemistry.

I have not adhered strictly to any particular *style* of landscape architecture. The geometric has been maintained so far as to embody a straight broad avenue, leading to a central feature. There is, perhaps, no style of planting so well adapted for city parks as that which secures a sufficiency of broad promenades. In small pleasure grounds, intricacy and variety is secured by planting thick masses of shrubbery. For various reasons, dense masses of growth and thickets are not desirable in a public park. This plan may be classed as a near approach to what Downing happily termed the "Graceful," and Loudon the "Gardenesque" style of landscape gardening, as distinguished from the "Picturesque;" but no exact line of definition can be drawn between the two modes of planting. While, therefore, every opportunity will be taken to show the full development of individual trees, the effects produced by combination in irregular groupings, and the assemblage of variously formed and colored foliage will also be secured. To the citizen contemplating landscape improvements, and to all desirous of studying the various forms and habits of trees, either as individual specimens for particular purposes, or the various combinations which they form in connection, this would be a place of useful and interesting resort. To further this object, as well as to excite general interest in trees, I propose that specimens of all hardy trees and shrubs, native and foreign, be appropriately introduced, so that the whole Park may be looked upon as serving the purpose of an arboretum; one, too, of a most useful character, and much more interesting than arboretums usually are. In my detailed plans and lists of trees for planting, I have kept this feature of a complete arboretum constantly and prominently in view.

I have not attempted to produce intricacy by an arrangement of tortuous or abrupt curving walks, but the various groups will be planted sufficiently thick, and intermixed with appropriate undergrowing plants, so as to produce a fresh change of scenery at every step, and thus avoid tameness of expression.

In planting parks of this description, the all-important object of shade must to a certain extent modify any style that may be adopted. I have shaded the roads and walks almost continuously on the south and west sides, taking every advantage to prevent monotony in the planting. The smaller walks are shaded with the Norway, sycamore and sugar maples, horse chestnuts, Lindens, and similar round-headed trees, and where one variety of tree is commenced on a continuous line, it should be continued until a change of scenery or branching of the walks gives a reason for changing the character of the trees. The same general principle should also characterize the groupings.

At various points where walks cross or take a similar course near each other, masses of low growing shrubbery have been introduced. These should be planted rather thickly, in ground previously well trenched and

manured, so that a mixture of luxuriant foliage may be produced. If called upon, I will submit my ideas as to the individual arrangement necessary to produce the best effects in this species of planting.

The straight entrance avenue is 40 feet wide; on each side, in the centre of a border of grass 10 feet in width, is a row of the tulip tree (*Liriodendron tulipifera*). This tree is selected for this position on account of its peculiar fitness. It forms a tree of majestic proportions; trunk straight and columnar; foliage large, ample, and of rich green color; healthy, and free from the attacks of insects. It is also peculiarly American in its general character, and distinct from any other tree. Parallel to the tulip tree, is shown a row of the Red Maple (*Acer Rubrum*), selected on account of its various-colored foliage at various seasons—in spring full of scarlet flowers; foliage rich green during summer, changing to a bright scarlet color in the fall, in beautiful contrast with the yellowish color of the tulip at that season. These trees are both of average rapidity of growth.

A carriage drive, 30 feet wide, courses round the park. These roads all meet at the centre. The central portion may be reserved for a fountain, encircled with weeping willows, whose drooping branches will enter into pleasing contrast with the pointed growth of the tulip trees, which will be continued on the outside of the oval broad carriage way.

The space included between the carriage road and the boundary line of the park is to be wholly planted with evergreen trees. The evergreen planting will, at certain marked points, extend further into the interior of the park, but they are in connection with the marginal plantings, and kept as a distinct feature from the deciduous trees; on no account are they to be extensively intermixed, but *blended* into each other by trees of intermediate character, as the Carolina Cypress and larches; this will produce a pleasing effect during winter, when the deciduous trees are leafless: shelter the grounds from the rude blasts of early spring, and impart an "expression" which is never attained by an indiscriminate mixture of deciduous and evergreen trees.

A few of the more important effects to be realized may now be noticed or recapitulated:

1. To form distinct groups of the various species of trees and their varieties, such as the oaks, ashes, maples, &c., and arranging them with reference to their habit of growth, so that the individual groups may form distinct compositions.

2. Planting evergreens with a view of forming a distinct winter scenery, principally effected by keeping them apart from deciduous trees, and arranging them with reference to growth and color of foliage.

3. Gradually to blend the evergreen and deciduous plantings into a pleasing connection, by using trees partaking of the conical form of the former, as the larch, and meeting them with single specimens of handsome trees of both kinds, such as the hemlock on the one hand, and the Norway maple on the other.

4. Placing trees of rare character so that they will be conspicuous and command attention, by planting them in isolated positions where they can readily be inspected from the walks.

5. Planting with reference to the development of individual as well as combined beauty; the former by placing single specimens in prominent situations, the latter by contrasting foliage alone, or the general outline and habit of growth.

6. Giving depth to limited views, by forming curving outlines, and planting the convexities with trees of light colored foliage, and the recesses with heavy, or dark foliage, as the horse chesnut and purple beech.

7. Preserving a pleasing sky outline to all distinct groups, by introducing into the centre such as the Lombardy poplar, and filling up the margins by suitable undergrowth.

8. With reference to producing effect from the coloring of foliage in autumn, principally the dogwood, oaks, hickories, sweet and sour gums, sassafras, maples and tulip trees.

9. To plant the outlines of various groups with early spring flowering trees, in order to produce a cheerful effect, such plants as the Judas tree, dogwood, chionanthus, flowering thorns, laburnum, magnolias, &c.

10. To imitate the pleasing variety of stems in natural scenery, by planting at irregular distances apart, some quite close, to form an appearance of two or more stems proceeding from one root; a pleasing variety will follow such treatment.

Lastly.—To preserve the frequent occurrence of open lawns, in order to relieve and heighten the effect of the plantings ; neglect of this will destroy all that the plan proposes to accomplish.

[Mr. Saunders has most successfully treated this level spot, having been selected to lay it out by the councils of Philadelphia, and having the charge of the entire details. He gives in the above paper very satisfactory reasons for what he has done; a few years will show that he has done it judiciously and artistically. Comparatively this is a small park. It was presented by a few gentlemen to Philadelphia, and will become a model for grounds of similar character. Parks are to be great features of the neighborhoods of our cities and towns, and here is one of the best examples of planting to follow.—*Ed.*]

WILSON'S ALBANY SEEDLING STRAWBERRY.

BY DR. G. W. RUSSELL, HARTFORD, CONN.

The strawberry season being past, it is well to compare notes, and give our experience with the new varieties. Here is mine with the Wilson's Albany. In August, 1856, the plants were put about twelve inches apart, and in rows eighteen inches apart. In August, 1857, four more rows were set, making the whole plot bearing fruit, as measured the other day, eighteen by twenty feet. From this plot there were gathered, between June 17 and July 10, seventy-four (74) quarts, measured, and from eight to twelve quarts, estimated, decayed in consequence of the rain. The greatest amount picked in one day, June 26th, was twelve quarts, and probably four more might have been gathered, as the whole bed was not gone over.

The berries were large, of a fine dark red color, firm and solid. A section of the fruit shows a solid mass of flesh, juicy and well-flavored. They will weigh more, measure for measure, than most other varieties with which I am acquainted. As regards the quality, it is very good, and I should rank it higher than did the late Fruit Growers' Society, at Rochester. In 1857, I thought the fruit was rather acid, but this year it was less so. It is *very* productive, according to my experience, and promises to take a high rank amongst the new varieties.

I admit that the rows were too near together, and the plants too crowded,

but, by care, the berries were well exposed to the sun, and were well colored.

In November, I covered well with horse-manure and litter, taking care, however, not to bury the plants. In the spring, if any of them did not readily make their appearance the straw was pushed aside, and a chance given them to show their heads. The manure and straw was not raked off. When the grass about the garden was cut, it was placed between the rows, making a complete covering for the ground, a fine mulch, and a nice, clean bed for the berries. Perhaps this variety needs mulching, to keep the fruit clean, for the fruit-stalks are not always long, and are generally bent down with the weight of the fruit.

Since the gathering of the fruit, I have dug about three or four inches in depth between the rows, the straw and grass being sufficiently decayed, and some of the old leaves and all the runners having been previously removed. I have now thoroughly mulched the ground again with grass, shall keep the runners cut, and in November shall treat as before.

The ground was thoroughly turned over in May, 1856, to the full depth of the spade, and *well* manured. Before putting out the plants in August, it was again spaded. The plants had a good dressing with wood-ashes last year, and will get another in about two weeks.

The time and labor spent upon this small plot was considerable, but was well repaid.

AROUND CINCINNATI, OHIO.

Mount Welcome, August 6, 1858.

J. Jay Smith, Esq. :—As you are fond of giving good information to your horticultural readers, and extend to us a great deal that is excellent, perhaps you would be willing to take a little in return, especially when it comes from an old friend. I always read your visits to country places with interest. I like to know what is going on around our larger cities, and to hear of the circulation of the wealth amassed by commerce into the rural districts. The embellishment of our noble country, by the hand of taste, has been too long delayed, and now that it has been commenced with such encouraging prospects, I feel grateful to those who, like Downing and yourself, have zealously urged on and directed the spirit of improvement.

We are doing something here, around Cincinnati in the way of rural embellishment, and the suggestion I sat down to make is, that you make a visit to the Queen City of the West. We have some reputation abroad of the rapid growth of our population, and as a mart for some of the great staples of agriculture. The flavor of our hams and the fame of our Sparkling and Dry Catawba are understood abroad, but it is not so well known that our neighborhood abounds in the most attractive and romantic rural scenery. We have a delightful country about us—a region of hill and dale, of amazing fertility ; and, now that the great forests have been opened, and the lovely valleys exposed to the eye, with their broad fields of wheat, and corn, and grass, the tasteful visitor will find landscapes here of unsurpassed beauty.

Within a few years past, the desire for country residences has become quite prevalent among our citizens, and many a delightful villa has grown up in consequence. Some occupy them during the whole year, riding in and out to their business, morning and evening, and finding both health and

domestic comfort from the arrangement; while others go to the country only in the summer, and return in the winter to the enjoyment of coal-dust and evening parties. The country has thus become highly improved for several miles in every direction, and there can now scarcely be found a city in our land so surrounded by beautiful rides and embellished rural scenery.

We owe much of this taste to our Horticultural Society, which has been conducted with great zeal, and embraces among its members a great deal of practical knowledge, and no small amount of science and taste; and quite as much do we owe to the example, writings and liberal expenditures of our venerable and excellent citizen, Nicholas Longworth.

If you will ride with me to Walnut Hills, I will show you some places worth looking at, and from the river hills some noble views; and here are some of the nurseries from which our suburban cottages are becoming embowered with shrubs and flowers. Then I would take you to Clifton, which we think quite equal to anything of the kind anywhere. This is a suburban district, commencing just beyond the streets after you rise the hills out of the city, and embraces a most beautiful drive of several miles, over a charming country, ornamented by noble country-seats. Here is your correspondent, Robert Buchanan, on a splendid hill, with a fine prospect and a successful vineyard, of which you have heard, and from which we have all tasted such choice Dry Catawba wine. He would like to take by the hand such a man as yourself.

The residence of R. B. Bowler is a magnificent affair. Here the hill overlooks a broad valley, studded with cultivated fields, villas and various beauty-spots. The house is on a grand scale, furnished and surrounded with a lavish expenditure, and the whole establishment is princely. Not less beautiful as to locality, but of far less pretension, is the more humble residence of Bishop M'Ilvaine, combining good taste and comfort. The fine mansion of Griffin Taylor, Esq., is beautifully surrounded, and commands a noble prospect; and the excellent man and eminent jurist, Mr. Justice M'Lean, of the Supreme Court of the United States, with his admirable lady, has a fine spacious house here, on a commanding eminence.

You will find me in a different locality, not less attractive by nature, but, as yet, wholly unembellished by the hand of wealth—perched on the brow of a hill, overlooking the picturesque valley of the Little Miami. Nature has here spread, with a lavish hand, her most bounteous gifts, and you might travel far without finding a valley so richly adorned, through its whole length, with romantic scenery, rich verdure and gigantic natural productions. It is traversed by a railroad, whose directors are so squeamish as not to authorize the slaughter or maiming of human beings, and whose trains enjoy the distinction of being, so far, guiltless of the blood of mankind. I have a snug cottage here, to which no one would be more cordially welcome than the editor of the *Horticulturist*. We are half a mile from Loveland, where the Little Miami Railroad has a station, and where the Marietta and Cincinnati Railroad connects with the former road. You can get to us over the Pennsylvania Central, or over the Baltimore and Ohio Railroad, and will be sure of safe and agreeable traveling either way.

J. H.

STRAWBERRIES.*

The increasing popularity of the strawberry warrants the employment of every means to disseminate a knowledge of the best kinds. The cultivation is well understood; what we want is to know the best. At some expense, we present the frontispiece of the present number, with a view of posting our readers as to some new kinds.

Trollope's Victoria, Fig. No. 1.—This is an English variety, not prolific, but the few berries it produces are remarkable for size, beauty and delicacy of flavor. It is very distinct in foliage and fruit, seems perfectly hardy and is considered by some an acquisition. Fruit of largest size, nearly globular; light scarlet or crimson color. Our specimen is from Mr. W. Camack's market garden, Washington, D.C. Staminate.

Vicomtesse Hericart de Thury, Fig. No. 2.—The portrait of this fine fruit is from a berry of medium size, taken from the garden of Mr. John Saul, of Washington, D.C., when the season was nearly over. It attains a greater size frequently, and is there called the best early variety. Medium size, high flavor, bright color, firm flesh, and very productive. The foliage not inclined to burn, and very hardy. A French variety. The objection to trying foreign sorts is disappearing. The engraver calls this berry *Vicomte*, instead of the correct name, which is *Vicomtesse*. Staminate.

Princess Royal, Fig. No. 3.—This fruit we have not tested. The specimen was grown the past season on runners by Mr. Buist. He says of it: "Ingram's Princess Royal Strawberry is pistillate, and the *only* pistillate variety that has come under my notice of European origin. It is a great bearer; berries of uniform size, highly perfumed and richly flavored. It is also an early variety, of firm flesh, and will bear carriage well. The vines or runners withstand the effects of sun or cold with impunity. It forms a very valuable addition to the strawberry grower, and if we were put down to two sorts, they would be Albany Seedling (Wilson's), and Ingram's Princess Royal. Yours truly, Robert Buist."

Wilson's Albany Seedling, Fig. No. 4.—This is one of the greatest favorites, and is considered the most productive. It continues in bearing a long time, and being dwarf and compact in its habit of growth, a large crop can be picked from a small plantation. It should hang on the vines until the fruit assumes a dark color, being deficient in flavor when merely red. Pistillate. "Felten's Improved Albany Seedling," is of doubtful superiority, but, it must be added, that we have not seen it, nor has it, that we can learn, been exhibited.

Fillmore, Fig. No. 5.—This fine berry originated in Baltimore, and will be for sale by S. Feast & Son. We have seen only the specimen sent us for the purpose of engraving, but we have reason to believe that it will take rank with the best, when known.

Jenny's Seedling, Fig. No. 6.—A very hardy and strong grower; good bearer, later than most varieties, and therefore valuable as prolonging the strawberry season. Jenny Lind is an early eastern variety which promises well, but must not be confounded with the "Seedling." Pistillate.

McAvoy's Seedling, Fig. No. 7.—This variety has a great reputation at Cincinnati, and in some situations is an excellent berry. Pistillate.

Longworth's Prolific, Fig. No. 8.—Opinions differ regarding this much-vaunted fruit. We have found it excellent near Philadelphia, but not equal

* See lithographed Frontispiece.

to Wilson's Albany in productiveness. Hermaphrodite. Being of a very luxuriant habit of growth, with large foliage, it must be cultivated in hills; when crowded in beds the crop is always deficient. It is too acid for some tastes.

Burr's New Pine, Fig. No. 9.—This fine berry is the acknowledged superior among strawberries as the Seckel is among pears. It thrives well on good strong soils, and for amateurs may be classed among the very best. The berry is not large, nor have we found it a great bearer. The birds are pretty good judges, and have been observed to give it a preference over all others. Pistillate.

Other favorites are *Hooker*, much esteemed; *Marylandica*, according to its admirers, without any rival, and we must say a very superior sort; *Peabody's Seedling*, not equal to expectations, but cultivated as single plants, in hills, rather promising; *Triomphe de Gand*, a showy fruit of good flavor, bright color, firm flesh, good bearer and very hardy; *Kitley's Goliath*, one of the best for the south; *Alice Maud*, good flavor, but excelled by *Vicomtesse; Compte de Flandre*, large, early—but *Victoria*, a seedling from it, is hardier, stronger and stands the roasting suns of the south better, though with less flavor.

In our August number we gave the vote on the five best kinds for amateurs and the five best for market, taken at the last meeting of the Fruitgrowers' Society of Western New York. Our selection of half a dozen, taking all things into consideration, at present would be as follows: *Hooker, Burr's New Pine, Vicomtesse Hericart de Thury, Wilson's Albany Seedling, Jenny Lind, Hovey's Seedling.* There are two other strawberries of great promise which we wish to chronicle, *Jessie Reed*, raised by William Reed, of Port Dalhousie, C.W., and from the same grower, *Reed's Grand Hermaphrodite*, both of which promise well and are of the largest size. Efforts, not without promises of success, are in progress to bring out "perpetual" bearers, which we shall have something to say about hereafter.

THE AMERICAN POMOLOGICAL SOCIETY,

Held its Seventh Session in New York, commencing on the 14th ult., and continuing three days. The discussions, as usual, were of great interest, and will be published in the usual form; the only official portion we have received is the opening address of the able President, Col. Wilder, who was re-elected. The address is a forcible appeal in favor of the Pear, and will stimulate the friends of that fruit to renewed cultivation. No one will rejoice more than ourselves to see our markets fully supplied with this fine fruit. Our position, that the dwarf pear is for the garden and not for the orchard, is, we think, sustained by facts. Mr. Hovey, an able advocate for pear culture, agrees in this; in his last magazine he closes an article on the subject thus; "For the orchard, *the quince stock is unsuitable*, and impatient of the careless culture they now receive."

This is what we have contended for in this journal. Perseverance, after the warm eulogiums passed upon the pear, may be expected. But as far as our knowledge extends, and we have seen many attempts at cultivating on the quince, the general opinion regarding that stock agrees with our own and with Mr. Hovey's. On its own stock, perhaps time sufficient has not elapsed to test the question; but it is in a fair way of being decided ere long—many orchards having been planted out with a view to profit.

Our able reporter furnishes the following account of the proceedings in New York.

(*Reported for the Horticulturist.*)

AMERICAN POMOLOGICAL SOCIETY.—Seventh Session, held at Mozart Hall, New York City, September 14, 15 and 16, 1858.

The fruit which had arrived was arranged in a hall devoted to the purpose, where it was found impossible to exhibit more than half the quantity already received. A larger hall was immediately engaged, and rapidly filled with splendid specimens of fruit, notwithstanding the extremely poor season.

Delegates were present from all States, and fruit from fifteen.

The Convention was called to order by Mr. President Wilder, at 11 A. M., there being a large number of the most intelligent fruit culturists present, Louis E. Berckmans of New Jersey, Dr. Brincklé of Philadelphia, Barry of Rochester, and others.

Delegates handed in their credentials.

Biennial members renewed membership by paying fee of $2, life members $20.

Transactions of 1854-'56 distributed.

Hon. M. P. Wilder then delivered the Annual Address, with his accustomed clearness.

At the close of Mr. Wilder's address, Mr. T. W. Field of Brooklyn, presented the following resolutions:

Resolved, That the thanks of the American Pomological Society be tendered to the Hon. M. P. Wilder for his long and valuable services as President of the Association, and for the uniform courtesy and impartiality with which he has discharged the duties of his office.

Resolved, That in view of his distinguished ability as a presiding officer, and his extensive knowledge as a Pomologist, his services are especially desirable in the chair of the Society, and that his acceptance of the same will be the surest guarantee of its progress and prosperity.

Carried by acclamation. Mr. Wilder very patiently bore the additional burden imposed on him so unanimously, and thanked the Convention for this renewed honor.

Committee on Nominations retired.

Convention adjourned to meet in half an hour.

2 P. M.—Society convened. The Committee on Nominations handed in the names of officers, which were accepted. Mr. Barry positively declining to serve longer, Mr. T. W. Field was appointed instead, and unanimously elected to fill the office.

OFFICERS OF THE AMERICAN POMOLOGICAL SOCIETY, 1858.—*President:* Hon. Marshall P. Wilder, of Massachusetts. *Vice Presidents:* S. L. Goodale, Maine; H. J. French, New Hampshire; Samuel Walker, Massachusetts; Frederick Holbrook, Vermont; Stephen H. Smith, Rhode Island; A. S. Monson, Connecticut; Benj. Hodge, New York; Thomas Hancock, New Jersey; Caleb Cope, Pennsylvania; E. Tatnal, Jr., Delaware; Ch. B. Calvert, Maryland; Yardley Taylor, Virginia; Walter F. Steele, North Carolina; Robert Chisholm, South Carolina; Richard Peters, Georgia; Jos. S. Moultrie, Alabama; Dr. M. W. Phillips, Mississippi; Henry E. Lawrence, Louisiana; J. S. Downer, Tennessee; W. Davenport, Oregon; C. B. Lines, Kansas; J. W. Felt, Bayou Sara, La.; Thomas Affleck, Texas; Lawrence Young, Kentucky; A. H. Ernst, Ohio; J. G. D. Nelson, Indiana; W. D. Haylay, Illinois; N. J. Coleman, Missouri; Geo. Worthin; Arkansas; B. F. Nourse, Florida; Robert Avery, Iowa; J. C. Brayton, Wisconsin; Simpson Thompson, California; Joshua Peirce, District of Columbia; Edward Hunter, Utah; Hugh Allen, Canada East; James Dougal, Canada West; Amasa Stewart, Minnesota. *Secretary:* Thos. W. Field, Brooklyn, L. I. *Treasurer:* Thomas P. James, Pennsylvania.

The Convention agreed to meet for three days at 9 A. M., and disperse at 5 P. M., with recess from 1 to 2 P. M.

Report of General Fruit Committee being in order, the Chairman moved that instead, the State Committee Report be read; these being in order, he again moved that they be laid on the table, and that *New Business* be the order for the day.

An able paper, written by Louis E. Berckmans, of N. J., was then read by T. W. Field—"Fruit Culture from a general point of view." Great calamities have befallen the cultivator of fruit in the way of insect enemies, blights, &c., and much of a discouraging nature has been said, but I would suggest that the failure of our common crops is very frequent, yet they are still grown; so with tomatos and other choice vegetables. In France, notwithstanding the severe loss from attacks of *oidium*, fruit culturists are not discouraged, and even now the vine is flourishing again. Mr. B. then refers to the necessity for close study of varieties, locations and treatment, attention to *vertical* as well as horizontal latitudes. We should be most grateful for the sunny and fine climate we have for fruit. Had seen in one exhibition in Boston finer fruit than in the best twenty in Europe, where so much more care and labor is required. In the South, land which was not worth five dollars per acre for the production of grain and other farm crops, yielding five hundred to six hundred dollars worth of grapes.

T. W. Field presented and read a paper on the adaptation of pears to soils and localities,

showing the folly of growing pears indiscriminately, and pointing out the necessity of giving special attention to those kinds peculiarly successful in a given place. He spoke of several best varieties having originated on Long Island, and presented paintings of the Bergen, Island, and other pears, executed by Mrs. A. O. Moore, of Orange, N. J.

Both papers were referred to Committee on Native Fruits.

The President read a letter from J. J. Thomas, on Fruit Culture, especially pointing to root development. Cultivators were not right in believing that the quince root did not extend far. Had examined a dwarf pear tree with head two feet in diameter, and traced the roots three and a half feet, their fibres distinctly for half a foot further, making a complete circle eight feet in diameter. New grass roots average one foot each side of the stalk, and in order to benefit trees growing in sod land, it is not only absolutely necessary to dig a circle of eight feet where the roots actually run, but two feet wider, to prevent the grass from affecting the tree. Several other interesting instances of a similar character were cited.

Samuel Walker, of Mass., read a paper recommending the society to revise the past and mark out a line for the future. Make a complete history of all fruits of whatever kind ever grew in this country, and divide the list into absolutely worthless varieties, and first, second, and third qualities. This would serve as a general catalogue. Then make a local list for each peculiar section of country. This labor should be done by a master mind under the direction of the President, supervised by a committee of the best cultivators. Mr. W. instanced the fact that there were six valuable varieties of apples known in Ohio, which had not reached the hand of Downing; how important then that this labor be well performed.

A Committee of Seven was appointed to consider the expediency of adopting Mr. Walker's suggestion.

Reports on rejected varieties called for; Committee not ready and laid over till last day.

Treasurer's report read, showing $428,94 in hand, after an expenditure of nearly $400. $170 received at present session.

Adjourned to meet at 7 P. M.

September 14. Evening Session at 7, P.M.

The President called the Convention to order. Subject for discussion, "Pear culture, mulching" &c. The president called on T. W. Field. Mulching had always proved of no value, but rather injurious. I have found that the mulch dries out in summer when most needed, so as to be of little value, and the trees cast their leaves. Mulching material furnishes a good repository for insects, and in mulched grounds you are always liable to have pears stung. Moles and mice burrow under the mulch, and are protected in their ravages.

P. Barry, Rochester. Young and newly planted trees, with short branches, should be mulched. Large trees are not benefited, and the mulch is in the way of culture. *Pruning.* On this subject there is a great diversity of opinion. The pyramidal form is certainly the most beautiful. I should begin by cutting back to within six or eight inches of the bud during the first year, to procure the best form. Treat trees like hedges, making broad bases. The dwarf-pear is materially pyramidal when it commences from the first to grow with plenty of room on every side. As grown in crowded nurseries trees become spindling. In the gardens of gentlemen the pyramidal form is decidedly the best; but the dwarf or quince must not be pruned up too high, as it will topple and snap off. The objection that low pruning is bad for cultivation, has no foundation in practice. As shown by Mr. Thomas, the point to be cultivated is wider than the mere spread of branches. I cultivate to the end of the branches and prefer not to form a low pyramid, about 18 in. to 2 feet above the soil, and allow the branches to fall over and touch the soil, cut back for two or three years, then let it grow naturally, merely thinning when too thick. The culture of the pear is no mystery; it is simple enough if the culturist has a *love* for the business, coupled with industry. A really industrious man of common sense *will succeed.* You cannot sit in your library and grow fine fruit by sending an ignorant man to care for it. Do with your own hands or go and see it done, as something occurs daily which needs attention. Gentlemen, this is a great fruit country. Plums grow well if industry be exercised. No difficulty in selecting proper soils for pears or any other fruit. If you cannot do it otherwise, go and see the best localities where fruit now flourishes, and learn by that experience. *Pears* require dry soil; if not dry, *drain.* I believe the pear culture to be most profitable of all fruit. Full crops of pears are grown every year in Western N. Y. when the apple utterly fails.

C. M. Hovey, Boston. The pear on quince trained as a pyramid is prevalent in the Eastern States. The great fault is in the lack of attention to kinds for special purposes and localities. The orchards of pears are to be found in Western N. Y. In gardens we are very successful. *Pruning.* Moderately high above the soil. It has been proved in England that the temperature at the surface of soil is from 6 to 8, or 10 degrees lower than 12 feet above. Frosts often affect trees near the soil and not above. I have noticed trees in high grounds loaded with fruit, when those on low grounds were without fruit except at the top and the leaves at the bottom instead—the fruit never being so good near the ground. I now prune off the lowest

branches. The rule I adopt is, on high and dry soils low trained trees, in damp soils higher training should prevail. I agree with Field and Barry on mulching. I believe it is not good on the whole; it is best in dry soils.

Louis E. Berckmans. As to mulching, agrees with the preceding speakers. In Georgia, the only mulch he uses is to thin the weeds about the trees, merely shading the soil slightly. Has noticed that with a heavy mulch all the water from a light shower is absorbed, and on removing the mulch, finds the ground dry. *Pruning:* Pyramidal always gives strength and solidity to the base of a tree when young, and will last forever.

R. R. Scott, of Pa. In certain localities the quince stock *does not* succeed; near Philadelphia, in a strong gravelly subsoil they utterly fail, while the standards are good. Mr. Scott presented two specimens of pear wood grafted on quince, to show the strength of union.

Samuel Walker, of Mass., approves of cutting green grass in June, and throwing a good thickness of mulch about the base of the tree, which dries up by the period for cool weather—*never* grow grass or grain in an orchard.

P. Barry. Wild pears may grow in sod, but fine pears are the work of art, and deteriorate in grass lands.

Mr. Saul, of Newburgh, thinks mulching generally carried too far; the practice has been badly abused.

C. M. Hovey thought, as the pear is a native of the East, we need not fear a little sunshine. What we want is aeration of the soil *and sun*.

M. B. Bateham, Ohio. This season all kinds of fruit have failed in Ohio. On our strong, clayey soils, we can grow pears on quince with perfect success.

Mr. Bergen, of L. I., spoke of trees 30 to 200 years old, bearing best in grass land.

R. G. Pardee, N. Y., and T. S. Gold, of Ct., advocated grass sod for trees 15 to 20 years of age. Instances were stated proving the failure of fruit where grass had been plowed up under old trees; the fruit cracking and becoming cankered, and when returned to grass, fruit again becoming fine.

The President spoke of an orchard, the soil of which had been scarified annually, which bore enormous crops of fruit.

Dr. Sylvester bore evidence to the value of tillage in orchard culture.

Convention adjourned till to-morrow at 9 A. M.

The visitors to the fine show of fruit were few in number, as the public have not full knowledge of the proceedings of the Society. Scarcely any publicity has been given to the affair. The meetings are attended by intelligent men, and discussions are spirited, but it is confined to members.

Wednesday, September 15. Met at 10 o'clock, A. M.

Some typographical errors in the list of fruits in the last transactions, were corrected by Dr. Brincklé.

Mr. Walker proposed that the apple *Lady's Sweet* should be called Lady's Sweeting, as in text books. Adopted.

The President announced the order of the day; reviewing the list of pears that promised well, with the view of adding such as can be to the list for general cultivation.

Beurré Giffard. Dr. Brincklé moved it be placed on the list for general cultivation. Mr. Cabot doubts the tree a good grower. With a slender and long growth on the quince. Mr. Wilder moved it be carried forward. Carried.

Mr. Saul called attention to the *Clairgeau*—too good a pear to remain as promising well—valuable for general cultivation. Mr. Scott: Keeps but a few days when fully ripe; tree breaks readily from quince stock. Mr. Wilder: Keeps till December. Dr. Brincklé: First quality. Mr. Parsons: Grows well on quince. Mr. Walker, Mass.: Most showy on table, though not A No. 1. Will be good, though not the best; it is not calculated for the quince; would as soon think of putting the English Buerré d'Aremberg. R. Buist, Pa.: 'Tis not fit for the quince. Prof. Boynton, N. Y.: Double works with Glout Morceau, and succeeds admirably. Other gentlemen express the opinion that this pear must either be grown on the pear stock or double worked on the quince.

Beurré Sterckman. Mr. Cabot moved it be called Beurré Hardy, as it has been pretty generally known by that name, and that it be carried to the list for general cultivation. The name was adopted, and the pear left where it is. Mr. Barry: French Nurserymen say there is no such pear as *Beurré Sterckman*.

Beurré Superfin. Mr. Cabot: One of the very best pears. Prince, Townsend and Saul coincide. Mr. Barry: One of the finest—fruit of first size and quality; trees good growers and do well on both stocks. Mr. Wilder: Thinks it equal to the best Brown Beurré, and agrees with Mr. Barry. Mr. Walker: Good as the best—none superior. Carried to the list for general cultivation.

Brande's St. Germain. Mr. Cabot: grew it fifteen years ago; has cut it out and rejected it.

Brandywine. C. M. Hovey moved to add to list for general cultivation. Carried.

Chancellor. Dr. Brincklé: Fine on quince.

Conseilier de La Cour. Mr. Wilder: A very good pear. Mr. Cabot: deserves to be advanced. Mr. Walker: Not sufficiently known; let it be where it is for the present.

Comtesse d' Alost. Ripens by degrees on trees twenty years old. Mr. Wilder: Bad in Massachusetts.

Delices d' Hardenpont—Doyenne d 'Alençon. Mr. Prince: Very thrifty and fine. Mr. L. E. Berckmans: I should like to see it advanced; it is one of the best in New Jersey, and have found it as valuable South as here. Mr. Buist: A uniform good bearer—tree good grower. Mr. Wilder: Keeps till May in Massachusetts; flavor like the Eastern Beurré. Carried to the list for general cultivation.

Doyenne Goubault. Struck off list of promising well.

Emile de Heyst. Mr. Wilder: A seedling of Mr. Berckmans'. I cannot do without the B. d'Aremberg in winter, but I cannot grow it successfully, and I am glad to find this pear takes its place in flavor and quality, and grows better with me. Mr. Cabot: In favor. Fruit of first quality. But the tree is rather thorny. Mr. Berckmans: The tree is straggling in its growth—stands the winter well on the quince. Mr. Coit, Conn.: Double worked on quince; it is very fine.

Epine Dumas. Mr. Walker: A poor grower. Mr. Hooker, Rochester: Affords good crop. Hardy. Good for general cultivation. Mr. Berckmans: Consider it second. Mr. Terry, Conn.: The difficulty with me is overbearing. It is my best pear. Keeps till mid-winter. Mr. Wilder: Hardy, full bearer in Massachusetts. Mr. Hovey: Necessary to thin the fruit, it bears so fully.

Fondante de Charneuse. Mr. Cabot: Same as Duke de Brabant; think well of it. It is fine this season, and a good grower. Ripens first October to November. Mr. Prince and Mr. Hovey: Called Excellentissima and Waterloo, and other names for fifteen years. Mr. Berckmans: It was originally named after the daughter of Van Mons. Now known in Belgium as Duke de Brabant.

Fondante de Noel. Mr. Cabot; Moves to strike it from the list. It is not melting; have cultivated it for fifteen years. Mr. Wilder: Same opinion. Mr. Saul: A very excellent pear. Mr. Berckmans: Fine on the quince in Belgium, on the pear not good.

Kingsessing. Mr. Hovey: Pass it and leave it on the list as promising well. Mr. Walker: One of the best trees in the nursery—fruit fine, no cracking. Keeps well; mellow, and does not rot for one month. Mr. Wilder: This pear is fine and does not crack. Added to list for general culture.

Kirtland. Mr. Townsend, N. Y.: Moves to advance this pear for general culture. Dr. Brincklé: Second quality in Delaware. Mr. Hooker: Beautiful, but rots at core. Messrs. Barry and Hovey agree with Mr. Hooker. Looks well, but not of large size. Mr. Walker: Is of same opinion. Dr. Brincklé: One of the best pears in New Jersey, Pennsylvania and Delaware.

Lyman. Mr. Walker: Trees are partially winter-killed in Massachusetts, and is a bad grower—fruit A No. 1 in summer. Mr. Wilder: Not good in flavor. Mr. Berckmans: Strike it out of list as promising well. Mr. Saul: Never found the objections spoken of.

Lodge. Dr. Brincklé: Good in the Middle States. Mr. Terry, Conn.: Does not crack with us; ripens well. Mr. Cabot: The Massachusetts Horticultural Society considers it equal to Brown Beurré in the east. Ripens September 15th. Mr. Prince: Objects to snarly fruit as well as snarly trees. Mr. Terry: On pear stock it is equal to Urbaniste—very productive. Mr. Walker: Flavor is fine—tree bad. Mr. Buist: Tree thirty feet high on pear stock, loaded with fruit—on quince it is indifferent. Mr. Hovey: Hope it will be recommended for general cultivation. Mr. Reid: Grows well, but rots rapidly.

Niles. Dr. Brincklé: Thinks it is imported. Mr. Hovey considers it a native. Mr. Walker: Worthless. Mr. Berckmans: Sent specimens to Belgium to the Royal Society, which decided it did not belong there. The same reply was received from Paris.

Onondaga or Swan's Orange.—Mr. Walker: Not an A No. 1; holds leaf well, tree a good grower, good bearer; should like to see it advanced. Mr. Field: I like it; it has disappointed many. Often quite astringent and sour; very fruitful. Dr. Ward: Luxuriant growth; fine size. C. M. Hovey: One of the most valuable in the U. S., beats all other trees in vigor and hardiness, almost as large as the Duchesse. October 1st, to November; is in November what the Bartlett is in September; As good as the Urbaniste. For beauty, abundance and size, one of the best. Mr. Wilder: I was opposed to it; I now agree with Mr. Hovey. Mr. Field: In Onondaga is as large as the Duchesse. Dr. Ward: No prettier tree, none fruiting better; always decays early; brings small price; first rate cooking pear; am now using it for cooking. Mr. Prince: More hardy and thrifty than the Bartlett. Mr. Newbury, Conn.: Tart-astringent; fruit looks fine. Mr. Hovey: Better keeper than Bartlett; was kept as late as the 25th November, for the great Webster meeting at Boston, and two barrels were eaten

before other kinds were touched, being preferred over all others. Most ready market pear; better than Bartlett. Dr. Russell, Conn.: Good grower, acid and coarse with us; sometimes leathery. Mr Clark: Ranks well. Mr. Dickerman, Conn.: One of the best. Mr. Barry: One of the first of American pears; never winter kills; sometimes not sweet, equal to Beurré Superfin; keeps well with me: rich, orange color; in the west very valuable. Mr. Townsend: Tree good, pear leathery, never palatable. Mr. Thompson, Ohio; Most excellent in every respect. Mr. Field: On rich, limy, soils and clay lands this pear is excellent. On light soils, very poor. Mr. Hooker: Should make it one among four in the orchard. Mr. Lyons; Good keeper, and bears well in Michigan.

Carried to list for general cultivation.

Osband's Summer. Messrs. Prince, Hooker, Barry and Wilder think it the best of summer pears; aromatic, juicy, and a remarkable acquisition. Picked early, it is a rich yellow and red. Tree upright and good grower. Carried to list for general cultivation.

Steven's Genesee Cracks, rots at core, variable, subject to blight.

St. Michael Archange. Mr. Hovey: Very excellent pear; tree one of the most thrifty and best form; leaf never drops; bears a moderate crop; when ripe, very fine; ought to be added to list for general cultivation. Mr. Field: Fine pyramid, without pruning. Mr. Wilder: Produces well; no forest tree is more hardy or holds leaves better. Mr. Buist: One of the best for foliage, hardiness and keeping qualities. Mr. Frost: Very fine. Carried to list for general cultivation.

Van Assche. Mr. Berckmans saw it weighing fourteen ounces in Georgia; very fine.

Mr. Field moved that the *Hull Pear* be added to the list. Mr. Hovey: It is so fine it must be claimed as one of the very best we have; most prodigious bearer; equal to the White Doyennè; tree never loses its foliage; shoots long, and when in bearing is in form of an umbrella. Messrs. Wilder and Newbury corroborated Mr. Hovey. Carried to list that promises well.

The President proposed the *Cabot Pear* for general cultivation. Mr. Hovey: Equal to the *Lodge*, or even better; it brightens up of a rich, ruddy brown, sometimes a vermilion cheek; slight fault in rotting. Messrs. Barry, Field, Townsend and Walker think it equal to the *Brown Beurrè*; one of the finest native pears and very productive. Mr. Hovey would like added to the list for general cultivation. Mr. Saul: Twenty years since, Mr. A. J. Downing grew it, praised it, and was censured by the Massachusetts Horticultural Society; this pear is now considered the best on Mr. Downing's place. Carried to list for general cultivation.

Mr. Hovey, of Mass., proposed the *Meriam* as promising well. Mr. Walker: Not A No. 1, but a good grower: native pear in Roxbury. Mr. French: Good market pear. Mr. Hovey: Prodigious bearing tree, breaking down if not supported: is one of the finest; much finer than the Bartlett. Mr. Wilder: Next to the Bartlett before the Mass. Hort. Society.

Mr. Hovey offered the *Cushing*, an old pear from Hingham; been neglected; as good as St. Germain; enormous bearer; fine grower; holds its leaves well. Mr. Walker: Not a good pear; coarse flesh. Mr. Terry: Rots at the core. Mr. Reid: Not as good as Onondaga.

Dr. Russell moved the *Pinneo* be added to the list of promising well; ripens in December, and is very good in Eastern Connecticut, where the accidental seedling was found one hundred years ago by Deacon Pinneo. Mr. Hovey: A very good pear: sold in Boston a long time without any name; I grew it four years, and failing to find any name, called it the Boston; it is identical with the Pinneo, and with that was called the Virgalien in Lebanon, Connecticut. Mr. Coit: A good pear; vigorous grower, and keeps well. Mr. Cabot agreed with Mr. Hovey. It was named Pinneo, and carried to the list that promises well.

Mr. Field offered the *Bergen* as promising well. Mr. Prince: Tree very vigorous and productive; fruit, medium size; fine flavor. Dr. Brincklè: A superior large russet pear. Mr. Bergen: A smooth pear, supposed a seedling from Bartlett or White Doyennè. Carried to list as promising well.

Mr. Prince offered the *Hegerman*, a seedling of the Seckel and double the size; it is considered so superior among those who know it, that the trees, two years old, bring eighteen dollars a dozen.

Mr. Barry offered the *Canandaigua*, as having been a good market pear for twenty years or more; upright growth, like Lombardy poplar.

The *Tea* pear was offered, and was generally considered of not much note.

Mr. Field offered the *Beurré Gris D'Hiver Nouveau.* From Oct. to Feb. Promises well.

Mr. Hooker proposed the *Church* pear. This is the same as that known as Platt's Bergamotte and Prince's Virgalouse in Western New York. Dr. Brincklé: It is known under three other names; a superior pear. Mr. Hovey: Platt's Bergamotte is entirely inferior to the Church. Mr. Lawton has trees twenty years old, that came from Connecticut, producing fruit the same as the Church. Mr. Bateham; Introduced about Cincinnati twenty years ago. Mr. Walker moved it be laid on the table for want of exact information.

Mr. Hovey offered *Gansell's Bergamot.* Objected to; shy bearer; killed in the north;

comes in October, when there are plenty of other good ones. Mr. Barry said it was the worst of all trees.

Henkel Pear. Mr. Reid: Good. Mr. Hovey: First-rate. Mr. Field: First-rate. Mr. Carpenter: Good. Mr. Walker: Fair in fruit; upright grower; can't say a word in its favor; have cut off mine. Carried to list as promising well.

PEAR ON QUINCE taken up—

Long Green of Cox stricken off. Mr. Barry said it was put on by mistake. The following were added to list of pears on quince: Beurré Superfin, Beurré Hardy, Doyenné d'Alençon, Buffum, Belle Epine Dumas.

Mr. Wilder said that a cultivator in Massachusetts had procured 800 good trees on the quince from Rochester, of the Buffum, to form an orchard, so well do they do in Massachusetts. Some objection was made to its overbearing.

Belle Epine Dumas on quince. Mr. Field said they would break off. Mr. Barry had them ten years old, great bearers; sometimes bent to the ground, but never broke. Messrs. Wilder and Hovey agreed with Mr. Barry.

The *Sieulle* was offered as a fine-grained, buttery pear; very large.

ON PEAR STOCKS.—Mr. Field moved to strike out *Beurré d' Aremberg*—strongly objected to—notwithstanding it occasionally cankers. Generally very fine.

Mr. Wilder moved, that the *Stirling* be added to the list for general cultivation, a seedling of Northern New York: has a beautiful yellow and red cheek. Mr. Lyons: A good pear in Michigan, for the last 35 years.

The Pears added to list, that promise well, are: The Hull, Meriam, Pinneo, Bergen, Beurré Gris d' Hiver Nouveau, Henkel, Sterling.

Added to list for general cultivation: Beurré Giffard, Beurré Superfin, Brandywine, Doyenné D'Alençon, Kingsessing, Onondaga, Osband's Summer, St. Michael Archange, Cabot.

Grapes, for general cultivation add: Delaware, Concord.

List that promise well: Union Village, Logan, Hartford Prolific.

At the evening session, Sept. 15, the "Grape" was taken up.

President: Catawba, Isabella and Diana, now stand on our list for general cultivation.

Mr. Prince: moved that the *Delaware* be placed on the list. Bateham, of Ohio: This grape has been named from the town of Delaware, Ohio, in which it was grown. It seems to have come from New Jersey. It is a very desirable fruit, perfectly hardy in Ohio, and a first producer in good clayey soils. Mr. Thompson, Ohio: Considers the Delaware one of the best grapes grown—hardy, exempt from mildew; not as rampant as some others. It is growing near Trenton, N. J. Came originally from Hunterdon, N. J., from a garden filled with foreign grapes. Mr. Reid: knows of some old vines in N. J. bearing fine fruit. Mr. Downing: has grown it 4 years; considers it one of the best, if not the very best.

Mr. Wilder: Proposed the *Concord*, which he formerly disapproved; but it now looks finely in his own grounds—does not find it very early at Dorchester. Mr. Prince: It succeeds in Lower Canada, and should like to see it added to list for general cultivation. Mr. Clarke, Ct.: It is now about ripe with us—hardy, prolific, and well worthy general attention. Reid: Probably the best grape in New Jersey of that class, better as a whole, than the Isabella. Newbury, Ct.: Hardier than the Isabella; better, earlier; very valuable indeed. Mr. James, Pa.: Does very well in Pa. It is better with Mr. Cornelius, than in Boston, as it is not so astringent. Carried to list for general cultivation.

Rebecca. Mr. Hovey, of Mass.: Moved it be carried to list for general cultivation. Mr. Prince: Is opposed; 'tis a weak and tender grape of the character of the Chasselas; evidently a seedling of the White Chasselas, and like that, very puny in out-door culture. Mr. Hovey: Had failed to discover the Chasselas character; thought the Rebecca as hardy as the Delaware; no more subject to mildew. I believe to be as fine as any out-door grape; had received premiums of many societies, and when Isabellas of 1½ inches in diameter, had been winter killed, the Rebecca was hardy enough to withstand the severe cold. Hoag of N. Y.: Had seen no mildew except on the Hudson River: Mr. Strong, Mass.; Mildews the same as Diana; suffers more than the Concord or Hartford Prolific; believe it will prove hardy. Mr. Hooker: It is not a strong grower; is hardy in severe winters; foliage somewhat sunburnt, and subject to mildew. Mr. Field: It is not hardy on L. I. Mr. Thomson: Mildews in Central Ohio. Mr. Freeman, Ravenswood, L. I.: Has found it hardy; has grown from 15 to 18 feet in length, this year; mildews some this year. Mr. Frost, N. Y.: I consider it as hardy as Isabella and Catawba; has slender growth, but very healthy. Mr. Barry: Should like further trial of this grape as promising well. Mr. Saunders: I think it has the character of a native grape, as it mildews like the native grapes on the under side of the leaf. The holes in the leaves are not caused by the sun, as some have supposed, but by the mildew eating through the thin leaf. It is a weak grower, the same as the Delaware; Left as promising well.

Mr. Prince: Proposed Norton's *Virginia Seedling* as a fine wine grape, being early, and must

form the basis for great vineyards in this country. The vineyards of Indiana only succeeded where this variety was grown. Geo. Hussman, of Herrman, Missouri, has a vineyard of this grape. Dr. Warder: Said it was known in Cincinnati as a wine grape and highly valued. Not sufficiently tested, and allowed to remain as promising well.

Dr. Warder proposed, Union Village, Herbemont and Logan.

Union Village. Where Isabella fails this will succeed; does well south of the north line of Pa.; Mr. Cabot has grown it in Salem, Mass., unprotected: hardy as Isabella, and ripens as well; wood is strong; grows best on moderately rich soils. Mr. Walker: Strong vine; fruit fine; a tender grape on the Hudson; I cut down wood to 4 or 6 eyes and bury the vine in winter. Fruit superior; many are here out of doors; like Black Hamburg, and was taken for it in Boston. List of promises well.

Herbemont. Dr. Warder: Thin skin, fine for wine and table; not hardy; compact shouldered; does well in Southern Indiana, Ill., and Mo. Steele, N. C.; With us regarded as superior to the Catawba for wine. Added to list as promising well.

Logan. Mr. Thompson: Very early, fully equal to the Isabella; Black Marion is not the same as the Logan or anything like it.

Mr. Terry, of Hartford, Ct., proposed that the *Hartford Prolific* be added to list for general cultivation where Isabella does not ripen well. It was discovered as an accidental seedling near Hartford, Ct. ten years since. Mr. Goodall, of Maine, says it ripens perfectly. Mr. Prince: A valuable grape, early and very productive. Mr. Saul: Drops half its berries before all are ripe. Hovey: It was condemned at Rochester in toto. I move it be added to list promising well. Mr. Terry: Berries do not drop off with us. Mr. Barry: I regard it as a prolific hardy grape in certain localities; they are not of the first quality. Mr. Todd: Makes the best growth of any of the new vines I put out at the same time; is hardy, very prolific, and early. Mr. Austin, of Ct.: With good culture the fruit hangs on. I sell more Hartford Prolific vines, than of any other sort. Mr. Hoag: Ripens 1st September; unless dead ripe the berries hang well with me. Mr. Walker: For four years I was opposed to this fruit; now think it No. 1 in New England. Mr. Wilder: We seem to be making a clean breast of the matter. I agree with Mr. Walker: I was formerly opposed to it, now I think it a good fruit; I have not ripened an Isabella in 30 years; Concord and Hartford Prolific, both ripen well; not liable to mildew; though not first rate it is very desirable. Added to the list that promises well.

Mr. James proposed the *Clara*, *Brincklé*, and *Raabe*.

Mr. Prince proposed *Amber Catawba*, the seedling of the Catawba; delicate pale pink of the same size; sweet, with a slightly musky aroma, but mild; I have grown it for twelve years.

Mr. Prince proposed the *August Cord* of N. C.; hardy, sweet and pleasant, reddish, medium thick skin; succeeds in Maine; equal to the early Isabella and Hyde's Eliza.

Mr. Hogg proposed the *Manhattan Grape*: bunches not large; amber colored like the Rebecca. A seedling of Mr. Buchanan's.

Inquiries were made about the *Canadian Chief*. Mr. Prince: A foreigner; white and shouldered; a seedling of the Chasselas. Mr. Hovey: Pass it to the Committee on Synonyms; grows well in a green-house; tender outside as Chasselas de Fontainebleu. Mr. Barry: Received it from Canada; said it was a hot-house grape, and was greatly censured for it; it is as tender and worthless out-doors as the Sweet Water.

Inquiries about the Mass. *White Grape*. Mr. Hovey: All I can say is that I paid 5 dollars for a vine and now have it. Mr. Hoag: The vine is hardy and makes a fine growth. Mr. Barry's experience is the same as Mr. Hovey's.

Mr. Strong inquired about the *Carter Grape* exhibited in Mass. and well spoken of; fruit and foliage like the To Kalon. Mr. Hovey and Mr. Prince called the To Kalon a seedling of the Catawba. Mr. Hoag: The *Carter* is perfectly hardy with me.

Mr. Bateham: The *Idem* is the poorest grape cultivated.

Child's Superb. Mr. Prince thinks this similar to Dayton's Superb, a white grape. Mr. Wilder: Mine lived the first winter, died the second.

Grapes added for cultivation under glass: Cannon Ball, Red Chasselas, Zinfindel, Black Damascus, Bowood Muscat, West's St. Peters, White Nice.

Sept. 16.

Committee on Synonyms and rejected fruits reported.

An intermediate report had been handed the President as usual. Mr. Field's paper, "On the Adaptation of Pears to Different Localities," which had been referred to this Committee, was examined by them and passed to the Committee on Publication. Mr. Hovey's report on foreign fruits was accepted and placed on file.

D. Redmond, Esq., of Ga., was invited to read a paper entitled "The Pomological Resources of the South." He said: The south is the home of the peach and fig; both of these fruits being produced in abundance and great excellence. The jujube and the olive are also grown. It was formerly believed impossible to grow winter apples in the south. We now have native

southern varieties of winter apples equal, if not superior to any produced in the north, both in flavor and keeping qualities. All the early northern apples do well in the south. The winter and fall apples are worthless.

The Committee of Seven, appointed to report the expediency of making a list, general and special, of all fruits, as suggested at the beginning of this Session, by Mr. Walker, of Mass., reported: that they did not think it proper to enter into this at present, but recommended it be done some future day. Accepted.

Mr. Judd moved the subject of small fruits be taken up; no person to speak but once, except for explanation, and to occupy but three minutes. Adopted.

STRAWBERRIES. Mr. Prince moved to strike *Early Scarlet* from list for general cultivation. Mr. Lyons: Best in Michigan. Mr. Hooker: About the best in Western New York. Mr. Bateham: One of the best in Ohio.

Hooker's Seedling. Mr. Prince: Is not productive, except it be fertilized; it is hermaphrodite. Mr. Hoag: Very productive. In Pa. and Central Ohio one of the best. Mr. Barry: One of the very best. Mr. Field: Largest, fairest, and finest fruit. Added for general cultivation.

Wilson's Albany. Mr. Field: First rank in size and quality. Mr. Prince: Blooms in great profusion; one half flowers; never mature fruit; is hermaphrodite. Dr. Brincklè: Have counted 190 berries on one root. J. R. Shotwell, N. J.: 150 plants gave over 100 quarts of berries; one plant gave two quarts. Mr. Mannice: 100 plants put out last spring produced more than any other variety. Mr. Cliff: Two bushels from one quarter of a rod; very good. Mr. Pardee: Saw plenty in Yonkers measuring 4 to 4¾ inches in circumference, and none hollow; fine flavor; beautiful mahogany color. D. Redmond, Ga.: Grown for two years; one of the very best. Added for general cultivation.

Walker's Seedling, Burr's New Pine, and Triomphe de Gand, were spoken of.

Mr. Patrick T. Quinn, of N.J., proposed *Boyden's Late Mammoth* for general cultivation, as it was very fine, large, solid and late.

The *Boston Pine* was sustained in its position.

Peabody's Hauthois. Mr. Field: Ought to be kicked out. Mr. Judd: Set out 10 plants, increased to 600 first year and yielded 8 or 9 qts. of very fine berries. Flavor excellent. I shall plant it extensively. Mr. Lawton: Shall set out one or two acres, I am so well satisfied with it; grows finely on ground without manure. Cut off the runners. Failed in Philadelphia. Mr. Mannice: On ten feet by three, plenty of wood, not half a pint of berries; only two or three fine ones. Mr. Steele, N.C. Flavor fine as I had ever tasted; withstands drouth well. Mr. Cabot: Quality poor. Looks large and handsome. Mr. Pardee: No instances of a good crop north; flavor very poor. Mr. Frost: Only merit is its size. Dr. Ward: Does well in N.J. Have an exalted opinion of it; fruit more attractive than Longworth's Prolific and other fine varieties. Dr. Sylvester: Rampant grower, fair quality. Becomes mealy when the runners are allowed to grow.

Longworth's Prolific. Sustains its former high reputation. Highly recommended by southern culturists.

Trollope's Victoria. Was struck off the list for general cultivation.

McAvoy's Extra Red. Mr. Field: Vinegar. Dr. Warder: Pick when ripe; it is fine and we prize it for its acid flavor.

Le Baron. Mr. Walker: First rate here and in England; large size; good flavor, prolific. Mr. Prince: Highest flavored large strawberry in existence.

Scott's Seedling. Great diversity of opinion in regard to this fruit.

McAvoy's Superior. Does well near Pittsburg and in several localities. Afternoon.

RASPBERRIES.—*Allen's.* Mr. Prince: Is productive, and is like the English Red Cane of the London Horticultural Society. Mr. Barry: Old; long ago cultivated and lost, now renewed. Best not to name it at present. Mr. Judd: Hardy fruit fine. Mr. Vail, N. Y.: In Westchester County has proved hardy, and fruit very fine. Also so with Mr. Seymour of Connecticut.

American Red. Mr. Saul proposed to strike it out. Mr. Prince: The name is indefinite; has a red bark and is very productive. Mr. Parsons: Very fine for preserving. Seed vessels of all other varieties too large.

Catawissa. Dr. Warder: Strike from list. Carried.

Thunderer. Dr. Grant: None superior; large, productive, and high flavor.

Ohio Everbearing. Bagley's Everbearing. Were passed over. Several persons condemned all everbearing raspberries. Mr. Barry said he had proved two good French kinds: Belle de Fontaine and Merveille (du Quatre Saisons) of four Seasons. Hopes to see everbearing raspberries as plenty as perpetual roses.

Doolittle's Black Cap. Some think it the same as common B. C., others an improvement. Mr. Mannice: Fruit twice as large as the Black Cap, and very fine.

CURRANTS.—*Cherry.* Mr. Cabot: Add to the list the Versaillaise, as large as the Cherry;

two and a-half inches in circumference. Very sweet; strong grower. Mr. Field: The Cherry a little acid, but a great market currant. Dr. Sylvester: Good grower, large, acid, good eating. Mr. Judd: Wells & Provost planted thirty acres for preserving. Mr. Cabot: Rampant; good for wine. Mr. Lyons: No better than Large Red Dutch; a little larger and more acid. Mr. Hovey: Acid, vigorous, productive; not good for table; good for preserves and jelly. Mr. Saul: Preferred the Versaillaise and the Large Red Dutch. Added to list as promising well.

Transparent White. (Blanche.) Large sweet, superior to White Dutch; transparent and very mild. Messrs. Barry, Saul, and Berckmans: Identical with White Grape.

Red Grape. Mr Prince: The London Horticultural Society say it is the Large Red Dutch.

Fertile Palluau. Mr. Berckmans: One of the sweetest. Promises well.

La Caucasse. Mr. Walker: Bunches seven inches in length; berry over two inches in circumference; sweeter than the Versaillaise.

Mr. Saunders inquired if any one knew the *Red Antwerp Currant?*

Mr. Steele of North Carolina moved that apples be taken up.

Added to the list for general cultivation: Autumn Bough, Broadwell, Cogeswell, Jonathan, Monmouth Pippin, Smith's Cider, Wagner, Willis Sweeting, Buckingham, White Winter Pearmain (not the Michael Henry Pippin).

Mr. Bateham of Ohio, and Westbrook of North Carolina, and others, asserted that the west, south-west, and south, at least one-half of the Union was sadly injured by the lists of apples and other fruits put forth by this Society. Many of the best fruits for those regions were discarded, and others adopted, that would not flourish at all. It was conceded by leading members, that there was some difficulty on this score. But the Society had done the best it could with ten years' labor devoted to the preparation of these lists. Gentlemen from these regions must assist in perfecting our labors.

The President proposed the place of next meeting should be fixed. Mr. Steele moved it be in Philadelphia. A permanent location was spoken of. Dr. Warder proposed Cincinnati. The President asked our Philadelphia friends if it would be agreeable to have the meeting held there. Mr. James—very glad to have you always. Mr. Cabot moved it be held in New-York, as the most convenient location. Mr. Saul opposed Cincinnati. It was finally agreed that the convention meet in Philadelphia in 1860 at the call of the President.

Mr. Hogg proposed that peaches be next discussed.

Carpenter's White. Mr. Hogg had seen six which weighed three pounds, very large, white stone, juicy. Last of September and to 5th October. Added as promising well. Mr. Berckman's proposed the *Chinese Cling* or *Shanghai* as a very superior peach in the south. D. Redmond: One of the best and most delicious clings—large oblong—perfectly white. The Honey peach is a free stone. Mr. Westbrook of North Carolina: The very best peach with me. Mr. Saul: The China peach was sent in pots to Mr. Downing; but we never fruited it. It went south, and I think the peach Mr. Berckmans speaks of must be the same one. Added to the list as promising well. *Columbia.* Added to list that promises well.

The hour for adjournment having arrived, Mr. Hogg of New York proposed that a vote of thanks be tendered to the President for the very able manner in which he had discharged his duties during the present Session and all former Sessions of the Society. The vote of thanks was enthusiastically awarded to Mr. Wilder. Mr. Wilder was deeply affected by this testimony of regard, and said he was willing to spend and be spent, in this beautiful field. He believed that his Creator had endowed him with a strong love for these pursuits, and he had always done all in his power to advance their interests. With a strong sense of what he owed to those who associated with him in this matter, and hoping that they might enjoy the blessing of their labor hereafter, he again thanked them for their kindly sentiments towards him.

It was also moved that Mr. Barry, the retiring Secretary, receive a vote of thanks for the manner in which he had performed his services. Unanimously accorded. Mr. Barry, in a few words, said he had done, and would do all he could for the society.

It was also moved that a vote of thanks be presented to that portion of the Agricultural and Horticultural press which had forwarded the true interests of Horticulture and Pomology. Carried.

Mr. Cabot then moved that the Society adjourn to meet in Philadelphia in 1860, at the call of the President. Carried. Adjourned.

[Our reporter has done great justice to the Pomological Convention. If any errors have occurred, they took place when three or four were speaking at once. We have devoted all the space at our command to the Convention, and when we receive the official report, shall take pleasure in completing the account as to entries, lists of apples, &c. The display of fruits, notwithstanding the season has been a comparatively poor one, was as gratifying as it was surprising.—Ed.]

EDITOR'S TABLE.

To Contributors and Exchanges, &c., &c.

Communications, Letters, Catalogues, Periodicals, &c., &c., intended for the perusal of the Editor, should be uniformly directed to the HORTICULTURIST, *Germantown*, (*Philadelphia,*) *Pa.* Packages by Express, &c, should be directed to the Editor, as above, by name ; they will thus reach him almost beyond a doubt.

ORCHARD HOUSES.—The reader will find, in the present issue, a valuable article on Orchard Houses, to which we desire to direct attention. Their use is very extensive abroad, and they are gradually creeping into favor among us. "Wodenethe" has fairly stated the case, and we add, from the *Gardener's Chronicle*, the following information, from the pen of a writer who has evidently correct views:

"As the opponents of these are so quiet now, I suppose that their houses are generally giving satisfaction, and that their success is too evident to be written against. Having seen Mr. Rivers' houses, and tasted of his fine crop of Peaches, &c., I determined to build one, which was finished and stocked with young trees early in the spring of 1857. Nothing of the kind ever gave me so much pleasure, and I do not wonder at the inventor being so enthusiastic about them Mine is a good, substantial building in brick-work, the south end glass, 60 feet by 20, with brick beds—cost, £95. It is span-roofed, and supported by a row of light iron pillars. Of course, "maiden" trees could not fruit the first year; this season they are generally full of fruit, some few trees having failed, particularly Apricots, whilst from the rest I have taken hundreds of fruit in thinning. I had some fears, as I had never grown a fruit tree in a pot, nor had a man on the ground who had more experience than myself. What I have seen has fully convinced me of the advantage of pots, they are so under command, and I much question if the trees would fruit better, or could be more healthy, if planted out. Of course, I am writing of trees in pots standing on soil. It has been quite amusing to hear the remarks of both gentlemen and their gardeners on seeing some small Fig trees growing on this plan; one, a White Marseilles about three feet high, had 60 fine large fruit on it at once, the last of which I hope to eat to-morrow, having gathered them daily for some time, and it has now a larger crop of young ones. A White Ischia is equally full, and several other kinds have been and are bearing a good crop. Now, almost every one who sees them appears astonished, some saying their Fig trees grow, but do not fruit well (these are planted out); others complain of the fruit dropping off—these are generally in pots. The plan invented by Mr. Rivers appears the "happy medium." I ought to say that the Figs are in a house of the same size as the orchard-house, but heated by hot water; this cost me £125, and I would not wish for a better, though, of course, it is a plain span-roofed house. But, for enjoyment in the sunny but cold months of spring, give me an orchard-house without heat; there you may wander for hours, if you have time, neither troubled by heat, cold, or March winds, and those who saw mine one mass of bloom will say that there was enough to admire. Whatever may be written against orchard-houses by those who have not tried them, they will be built in large numbers, and many a novice like myself will prove that there is no difficulty in their management.—*J. R. Pearson, Chilwell Nurseries, near Nottingham.*

STRAWBERRIES IN ORCHARD HOUSES.—Though Strawberries are but rarely among our forced luxuries, they may be turned to account in the orchard-house without interfering with other crops. Another writer in the same journal says:

"I have thought that to those who, like myself, are much interested in orchard-houses, a little interchange of experience in that department might be profitable. I give them mine, for the present season, in Strawberries. The plants were potted very late, were housed all the winter without water, looked rather bad early in spring, but, upon being watered, dead leaves picked off, &c., began to grow vigorously. Drainage-water was given frequently. They blossomed, and are bearing abundantly. My first ripe Strawberry was picked June 2, eleven days before the first in the open ground, also watered with same water. A few days later I gathered a small dish. On June 9, I weighed what I gathered; the weight was seven ounces. As regards kinds, Sir Harry is unquestionably, with me, the greatest bearer and finest fruit. I have found all that I have weighed to be a full half-ounce. Kitley's Goliah and Alice Maude are also doing well. I think I counted 22 Sir Harrys in a 32 pot; the average, perhaps, is 16 in a pot, and all gave promise of coming to perfection. I have been surprised to find that, on the average, small pots have produced the most fruit. Some 4-inch pots, 48 size, have borne capitally, the roots of the plants going well through into the border. My experience would say, 32 size is the best. I find, moreover, that the pots standing on the border, amidst the Peaches, bear earlier and better than those on a raised shelf under the front plate of the house. This is the case as regards earliness, even where the front is entirely of glass, as comparison with a friend's house has proved."—*Iota.*

Mulberries have also been introduced into orchard-houses; in fact, the list of fruits is increasing rapidly.

PLOWING MACHINES.—MRS. LOUDON.—The Philadelphia Agricultural Society has heard favorable accounts of a Plowing Machine invented in Lancaster county, which they are anxious to have tried. At the late meeting of the Royal Agricultural Society of England, held at Chester, numerous implements for this purpose were exhibited, and the practical advantages of steam culture were tested, proving the adaptability of the power. We hope some of our agricultural papers will publish the report. No award of a premium took place, though Fowler's invention seems to stand first. It plowed five acres a day, at a cost of 9*s.* English per acre. Great attention is now paid in England to Pulping Machines, for reducing food for cattle to an easily digested state. It is not a little curious that Mrs Loudon should have died just as Plowing Machines are about being perfected. In her first book, the novel of "The Mummy," she attracted the attention of J. C. Loudon, by asserting that the age of Plowing Machines was at hand.

Mrs. Loudon's "Lady's Companion to the Flower Garden" has had a circulation of 20,000 copies in England. It may be added, that her tastes are inherited by Miss Agnes Loudon, her only daughter, who is the authoress of several children's books, and various tales and sketches. Mrs. Loudon was in the enjoyment of a pension of £100 per annum, granted to her in recognition of the literary services rendered by herself and husband. A hope is expressed very strongly, and properly, that it may be continued to the daughter.

CANADA.—If our readers have been good enough to accompany us on a visit to Canada, they have doubtless discovered that there are many persons deeply interested in horticultural topics. They may also be interested to learn a few more facts regarding their near neighbors, whose agricultural statistics are more remarkable than many have believed. A few of these have reached us which may interest, no less than surprise, those whose attention has not been called to them.

In 1851 the whole animal and vegetable produce of Canada was £941,597; in 1856 it reached the enormous advance of £4,3840. Her undeveloped fisheries produce already £115.000 per annum. These figures represent the surplus wealth in productive industry only; manufactories also pay tribute to the export trade of the colony—in 1856 amounting to £104,000; ship-build-

ing alone shows a money value of £303,000. Added to these the value of exportations to inland ports we find in 1856 to be £8,000.

Turning to the home records of the colony, evidence exists of its condition and progress highly curious. In 1851 the gross amount of wheat grown was 16,202,272 bushels, showing an increase of 400 per cent during the ten previous years, while the increase in the United States had only reached 48 per cent. In oats, the produce increased 70 per cent, while that of the States was only 17 per cent; increase of Indian corn in Canada 163 per cent, and in the States 56 per cent. By comparing these with a separate State of the Union, and selecting Ohio for the purpose—no mean competitor, we have the following very curious table.

The land in Ohio is valued at nearly double that of the average of the Union, and has more than three times as many inhabitants to the square mile, she having 49,55, while the average of the Union is only 15.75. Let us look at some of the principal items. (See accompanying table).

	CANADA.	OHIO.
Population	1,942,265	1,980,427
Acres occupied, cultivated	7,300,839	9,851,439
" " uncultivated	10,638,957	8,146,000
Total occupied	17,939,796	17,999,493
Acres occupied to each inhabitant	9 3 4	9 0 18
Acres of wheat	1,136,311	1,221.437
Produce in bushels	16,155,946	14,487,351
Bushels per acre	14.2	12
Bushels per inhabitant	8.9	7.3
Assessed value of occupied lands	£65,879,048	£89,689,551
Oats, produce in bushels	21.434,840	13,472,742
Barley	1,389,499	354,358
Rye	869,835	425,718
Peas	4,223,487	55,168
Cows	591,438	544,499
Horses	385,377	453,397
Sheep	1,597,849	3,942,929
Cattle	741,106	814,448

These were the statistics of 1851; since then the country has been advancing at even a more rapid rate. In 1851 the gross wheat produce amounted to 16,125,956 bushels, in 1856 to 26,255,664, showing an increase of 10,399,738 bushels, which is equal to 64.3 per cent in the five years, and raises the return from 8.9 bushels to 10.6 bushels per head of population. In barley and rye, the returns are even more satisfactory.

In 1763, the population of Canada is given at 82,000; 1814, 430,000; 1823, 575,000; 1831, 772,000; 1844, 1,199,000; 1848, 1,491,000; 1851, 1,842,265; 1856, 2,500,000. If we compare these returns with those of the States, say for the last decennial census, we can form some idea of the relative population progress of Canada. In Great Britain the increase amounted to 13.2 per cent; in the United States to 35 per cent, while the population of Canada increased 69 per cent; or if we were to take the western province alone, we should find an increase of no less than 104 per cent in the ten years. This increased population appears to be the very life-blood of the colony.

While the export trade since 1851, shows an increase of, in round numbers, 150 per cent, the imports have fully doubled themselves in the same period.

If we take the present productive returns of the cultivated lands as a basis for calculations, it would be seen that the already occupied land in the colony would support a population of about 10,000,000 inhabitants; and if the present progressive rate of increase is sustained, a writer in "Hunt's Merchants' Magazine" tells us, that at the close of the present century, we may expect to see Canada occupied by a population something like 20,000,000 in number. Whatever her numbers may be, it is quite certain for years to come, the great strength of the country will lie in the productions of her soil. With these she will pay for foreign manufactures; her surplus

will supply foreign wants, whose surplus will administer to her necessities and comforts, and thus the scales of commercial benefit be kept pretty evenly balanced.

It is quite clear that there is ample space in Canada for a largely increased population, and it is equally clear, if we may judge from the past, that every increase is followed by a generally increased prosperity. To induce this by means of immigration, the government have lately offered free grants of land along three great arterial lines of road, which have been recently opened up and laid out for settlement. The grants are not to exceed 100 acres to each.

These lands are generally of very excellent quality, and well adapted to all the purposes of husbandry.

Australia excepted, no country furnishes such singular instances of the rise in the value of surveyed lands as the last five years have witnessed in Canada. The development of the railway system throughout the Province, has been the principal agency by which this has been effected. When we recollect that 1852 saw Canada without a single railway, and that 1857 saw her with 1500 miles completed, and 500 miles more in process of construction, the rise in the value of land is readily understood. The lines of railway must be looked upon as a series of accessible markets for the country they serve. The natural consequence is, that every product of the farm has acquired a certain money value, although before this new access to market it may have been absolutely valueless. The immense remuneration thus obtained for the same outlay of labor, has greatly enhanced the value of capital. Land in old settlements, remote from lake ports, has doubled itself in value in five years; while wild lands in new settlements, near to which a railway passes, have trebled their value within a shorter period. These all-powerful means of communication have opened up the country, made available a vast amount of inert wealth, stimulated industry, and effected a complete revolution in farming economy within a range of twenty miles on either side of the course they take.

For some remarkable statistics regarding the Victoria Tubular Bridge, at Montreal, the reader may consult with pleasure the article on "Iron Bridges," in the London Quarterly Review for last July.

BAGLEY'S PERPETUAL RASPBERRY.—It will be perceived by our advertising columns, is for sale only by the agent, Andrew Bridgeman, 878 Broadway, New York.

DEAR SIR:—My poor Delaware Grape is dead! It was a nice layer, carefully separated from the parent vine, and presented to me by a friend—potted in early spring, and nursed in the green-house, but without avail.

I was also interested in some half dozen cuttings from the same vine, and a dozen or so of cuttings from the original vine in Ohio, but not one eye vegetated in the whole lot.

An amateur in a neighboring town succeeded in starting four plants from fourteen eyes; while, of four cuttings grafted in vigorous stocks, not one is now alive. Obstinate behavior!

I procured from a neighbor, this spring, some scions of the Hawley Apple. Certain facts in the history of his tree were noticeable. Some years since, his wife sowed a single seed of a choice apple in a flower-pot, with the expectation of obtaining the same kind of fruit. The seed vegetated, and was transplanted, and in due time became a tree, and bore fruit which had a resemblance to the original, but was considered to be so much inferior as to be unworthy of cultivation. The tree was then grafted—all over, as was supposed—with the Hawley, and it has since borne good crops of this fine apple. One small limb, however, of the original tree, which had escaped the notice of the grafter, came into bearing about with the Hawley, and is an apple perfectly similar to the fruit from which the seed was taken and planted, and is considered by the owner so excellent—superior even to the Hawley—that he much regrets his hasty decision in grafting the tree at all. D.

J. J. SMITH, ESQ.:—Samuel Miller and W. T. differ on the Grape question, in the June and July numbers of the *Horticulturist*. I think neither party has done the subject justice, but Mr. Miller is right concerning the pruning of grape vines; they should be properly trimmed,

and all the useless or dead branches taken off, but the severe mode of pruning often practised is hardly advisable.

Another thing is certain: W. T. will find he is not able to confine the roots of the grape to a hole or border of ordinary dimensions, unless he boxes them in.

I am not able to say for the North, but it is pretty well proved here, and southward of this, that the grape will do well without much trenching (in good soil), if supplied with fertilizing matter near the surface, and well mulched.

It is a well-established practice to cultivate a peach-orchard regularly in New York, while in North Carolina it is undoubtedly the best plan to enrich the ground on the surface. The same rule applies equally to the grape, and all other fruits. Respectfully,

Pleasant Ridge, near Bendersville, Pa. F. W. C.

GLASS HOUSES.—In the September number of the Horticulturist Mr. Eaton, in an article on grape houses, expresses himself as being strongly in favor of curvilinear roofs, and enumerates some important advantages which he considers they possess.

My object was to endeavor to show how a neat, and at the same time a cheap and efficient glass house might be built; for there are many persons who would be willing to build such, who do not feel inclined to adopt a costly ornamental style, yet would not be pleased with a roughly built house of boards, and the broken sash ventilation of Mr. Eaton.

Now I wish to state at once that I have no dislike to curved roofs. When properly constructed they answer very well as grape, or indeed any other kind of glass houses; in alluding to them in my article of March last, I had not the most distant idea of condemning them. But as they have been brought forward as models, it may be well to enquire wherein their superiority consists.

With regard to the superior beauty of curved glass roofs, I confess that in the most of them which I have seen, (not excepting the Great Palm house at Kew,) there is a want of architectural proportion which detracts much from the beauty and *grace* which a curved roof would otherwise confer. This I have thought proceeds from a deficiency of upright base, or supporting elevation. A house so constructed that the curve seems to start immediately from the ground, originates a feeling similar to that produced in my mind when looking at a vase sitting on a lawn without a pedestal.

As to the additional gain of training surface, I think there is a mistaken notion prevalent on this point. For example, take a house 10 feet wide and 12 feet high, let there be 2 feet upright wall, then curve so as to procure a rafter 14 feet in length, which will be in good proportions. A common span would, in addition to the upright wall, require 2 feet upright glass, and a rafter 12 feet long. So that the training surface is very equally balanced, and any gardener would undertake to grow just as much fruit in the one, as he could in the other.

An "important disadvantage" in all narrow high houses, is the difficulty of equalizing the temperature. This is well understood among practical gardeners.

The cost of curvilinear houses, is, I have good reason to know, over 30 per cent that of angular houses. I again repeat that the latter are "much cheaper and equally efficient."

Germantown, Pa. WILLIAM SAUNDERS.

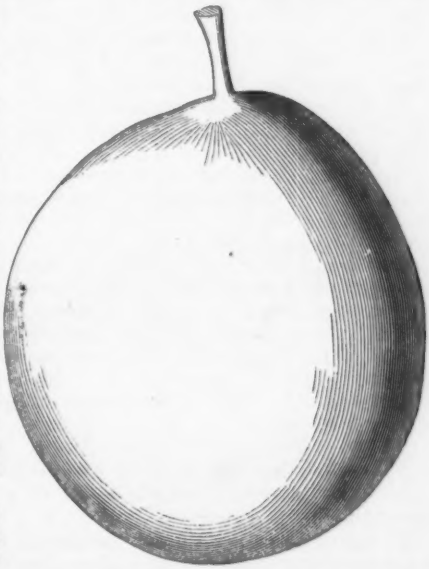
PINNEO, HEBRON, AND BOSTON PEAR.—Two of our valued Connecticut correspondents have forwarded separate parcels, without concert, of the pear which goes by this name. Dr. G. W. Russell says it has long been cultivated in the eastern part of the State, and has lately been disseminated under the name of the "Boston" by Mr. Hovey. I obtained them last week (August) in Gilead, sixteen miles from Hartford. Last year I compared the fruit and wood, and found them alike, and published an account of the pear in the *Homestead*. It was the *decided* opinion of a number who examined both here last year that the "Boston" was no other than the "Pinneo" long cultivated in this State. Accompanying you will also find specimens of Langdon's seedling Plum, (which came safe and are excellent.)

Colonel D. S. Dewey says: "We had an excellent show of Fruit, Flowers and Vegetable at

our Horticultural Exhibition (Aug. 12). Among the fruits was a plate of pears from the grounds of John A. Tanitor, Esq., specimens of which are herewith sent, which I obtained from him expressly for you. They are known with us as the Hebron Pear, and my opinion is that they originated in the neighborhood of Hebron, Connecticut, and not far from the original locality of the Pinneo, alias "Boston Pear." I find no mention in the books of any pear by their name, and I send them to you for examination. The tree is an upright grower, and bears abundantly every year. The fruit has been known here for some ten years or more, and is highly esteemed among our early summer pears. I have added from my own trees to fill the box, specimens of the English Jargonelle pear and Red Astrachan Apple, &c."

All which came in good order. The Pinneo, or Hebron pear is identical with the "Boston." No description, moreover, could be more perfect than C. Downing's of the Boston, if it had only been rightly named the "Pinneo" alias Hebron, as Mr. Harvey now admits.

THE COLUMBIA PLUM.—A correspondent, W. C. W. Baltimore, forwarded early in September magnificent specimens of the Columbia Plum; a drawing of the largest of which is here presented. The tree was obtained from Parsons & Co., and planted in a Baltimore town garden. This fine specimen measured fully 7¼ and 7⅜ inches in circumference, and is the largest we have ever noticed. "Miller's Spanish" may exceed it. Have any of our readers kept measurements of General Hand, or Magnum Bonums, to compare with the above dimensions?



COLUMBIA PLUMB.

"THE WANDERING JEW—A little runner with an ivy leaf and neat flower," which, in your August number you "commend to the attention of amateurs," is, indeed, a commendable plant. With us it is perfectly hardy, and is known also, by the euphonious epithet of Mountain Myrtle.

An interesting way of growing it is to plant it in a vase, or pot, or small tub, and encourage it to trail equally over the sides, and when the descending tips reach the ground, the pot is elevated on a pedestal, (another pot inverted, or a round block,) and, eventually, it becomes a circular mass of very pretty foliage, sufficiently curious and pleasing in appearance to arrest the attention of all beholders."

TREE LABELS.—Mr. B. K. Bliss, of Springfield, Mass., has laid on our table, specimens of his cheap and excellent labels for trees, especially fruit trees. They consist of a ring of metal enclosing a printed name under mica, and appear to be an admirable adaptation.

CORRESPONDENTS will see we have been obliged to omit many valued communications in the present number.

CATALOGUES, &C., RECEIVED.—Catalogue of Fruit and Ornamental Trees, and Plants, Knox Nurseries, Vincennes, Indiana. By Simpson, Ten Brook & Co. Our parish is indeed extensive when such fine catalogues of everything valuable reach us from such long distances as we chronicle this month.

Catalogue for 1858 and 1859, of Gloaming Nursery, Clarksville, Habersham County, Georgia. By Jarvis Van Buren. A great variety of valuable fruit.

Catalogue of Fruit and Ornamental Trees, &c., &c., at the Morris Nurseries. J. L. Darlington & Co., Westchester, Pa., 1858–59. This well known establishment continues to sustain its reputation. They also issue a Wholesale price list of importance.

Premium List. Three Distinct Exhibitions, Agricultural, Horticultural and Floral Departments, of the 30th Annual Fair of the American Institute at the Crystal Palace, New York, 1858.

Wilcox & Felt's descriptive Catalogue of Fruit Trees, West Feliciana Nurseries, Bayou Sara, Louisiana.

Journal of the New York State Agricultural Society, August.

The Dudley Observatory and the Scientific Council Statement of the Trustees. Albany, 1858. The Astronomers have somehow or other, instead of pointing their instruments at the heavens, run the whole affair into the ground. It is not difficult to decide were the error lay. The Trustees appear, by their own statement, to have the best of the argument.

Circular of, and ticket of admission to the New Hampshire State Agricultural Society Exhibition at Dover, October 6th, 7th and 8th.

List of Fruit on Exhibition from Downing Hill Nursery, Atlanta, Georgia at the second exhibition of the Pomological Society of Georgia, Athens, August 3d, 1858. A noble list for one exhibitor.

Descriptive Catalogue of Fruit and Ornamental Trees, Evergreens, &c., cultivated and for sale by Franklin Davis, at the Staunton Nurseries, Staunton, Va., 1858. This is the Catalogue of an extensive and successful nursery, every line of which indicates that the proprietor thoroughly understands his business.

Hand-Book of Fruit Culture. By Thomas Gregg. New York, Fowler & Wells.

Books for the People, published by Miller, Orton & Co., 25 Park Row, New York.

Catalogue of Grape-Vines for sale at Vinwood Grape Nurseries, Ilion, Herkimer County, New York. J. D. Ingersoll, Proprietor, 1858–1859.

Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Vines, Roses, Evergreens, Hedge Plants, &c., cultivated and for sale at the Fruitland Nursery, by P. G. Berckmans & Co., near Augusta, Georgia. A most valuable and useful Catalogue, which every cultivator may study to advantage.

Wholesale Catalogue of the Bloomington Nursery, Bloomington, Illinois, for 1858 and Spring of 1859. F. K. Phœnix, Proprietor. An extensive collection, and at reasonable prices.

Catalogue of new and standard Strawberries, for Autumn of 1858 and Spring of 1859, for sale by John Saul, Washington, D. C.

H. Collin's (Auburn, N. Y.) Descriptive Catalogue, Owasco Lake Nursery.

Levering's Experiments upon the Sorghum are for sale by H. A. Dreer, 327 Chestnut St., Philadelphia, and should be consulted by all interested.

Catalogue of Dutch Flower Roots, &c. &c. Thomas Meehan, Germantown nurseries.

Strawberry catalogue of Isaac Jackson, Jennersville, Chester county, Pa., successor to Thomas M. Harvey.

Trade list, fall of 1858, and Spring of 1859. Thomas M. Harvey, Jennersville, Chester Co., Pa.

Lebanon County, Pa., Agr. and Hort. Society's first annual Exhibition. List of premiums &c. for the 6th 7th and 8th of October, 1858.

Mr. S. Miller's fine collection of native grapes and other matters, sent for tasting, shall be noticed hereafter. Our space is all filled before their receipt.

Nealy Brothers & Bock's descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Vines, Roses, Green-house Plants, &c., at Bird's Nest Farm, Burlington, Iowa. A most stately volume.

ANSWERS TO CORRESPONDENTS.

To a Subscriber, Massillon, Ohio.—This a very common affection with Evergreens in *midsummer*, generally attacking Pines and Silver Firs, and sometimes Spruces, and turning them red.

It is probably atmospheric, and caused by the sudden action of the sun, either through or immediately after a shower or heavy mist, upon the termini of the leaves, and sometimes upon even the younger and more succulent shoots. We are not aware that it produces any injury beyond disfigurement.

L. S., Galesbury, Ill.—*Cassia Chamæcrista.*—It does not often choose a wet soil. In a flower-garden, it would probably do well in a very poor ground. It usually grows in soil formed of rotten rocks.

P. P.—Your lawn has been well broken up, well sowed, except that you omitted a portion of white clover, "but is now filled with switch-grass," &c. You must either mow it very frequently, or pasture it with sheep, and hand-weed the worst portions. The difficulty in all new lawns, for some years, is, that the weeds being more rampant in their growth than the finer grasses, get ahead, and overpower them. By keeping the entire growth of weeds and grass constantly down, either by close mowing, or by feeding down with sheep, the fine grasses get a better chance of sun and air, and eventually they subdue their enemies. Sheep feed closer than the scythe can cut; but, in July and August, care must be taken that they do not nip too close, or the roots of the fine grasses would suffer. White clover is indispensable to a good bottom sod; grass alone for a lawn does not get thick enough unless mowed occasionally, say once a month, when it is not what is properly a lawn, but a well-kept field. P. P. should, in the spring, fresh harrow his lawn, sow six or eight pounds of Dutch clover to the acre, roll, and either mow *frequently*, say every ten days, or inclose with hurdles and keep sheep on it for one, two, or three years, carefully fencing them from the trees, until he is satisfied with it; then remove the hurdles, and restore it to its original object. Don't expect a lawn, any more than a hedge in one season. In England, the bottom is formed by moss; here, where it is too warm and dry for moss, we must use the next best substitute, white clover.

The weed enclosed is *Polygonum auriculare.*

S., Washington, D. C.—Your plant is a Crinum; the species it is impossible to designate without the whole plant.

Muscat Catawba Grape.—We have no information that is reliable on this subject. Anonymous correspondents will hardly succeed in palming upon us such a novelty, the existence of which may well be doubted until it has passed the examination of some society or persons known to be reliable.

S.—Your plant is Pancratium odoratissimum, usually found in choice collections, but not common elsewhere.

MISCELLANEA.

Thermometer.—An ingenious device for recording variations of temperature at the period of their occurrence is exhibited by Mr. Gauntlett of Middlesboro'-on-Trent, England, the inventor. It consists of a long and thin zinc tube, containing a loose wooden rod—the two are fixed together at one end, and the relatively greater expansion of the zinc on increase of temperature causes the one to protrude in varying degree beyond the other, as the temperature changes. This varying motion is communicated by leverage to a pencil pressing on a revolving cylinder of paper, which is moved by clockwork, and carries off the indications of every successive minute on its surface. The invention receives a silver medal—so does another very inge-

nious contrivance for whipping cream or eggs, exhibited by Mr. Turner, of 196 Great Dover-street, Borough, London.

PRESERVING FLOWERS.—M. Lucas, an amateur, residing at No. 20, Rue basse de Rampart, Paris, has extensively circulated an address to Presidents of Horticultural Societies, offering to divulge his method of preserving flowers in all their freshness for an indefinite time, provided he receives from the Society a Medal of Honor, and is created an honorary or corresponding member. M. Lucas does not accompany his circular with any proof that his method is what he describes it to be; and we fear that, until this is done, his proposal will meet with little favor in this country.

THE VINE DISEASE.—Mr. Victor Chatel states that if the second and third sets of shoots of a Vine are cut away, the disease is much mitigated or wholly removed; but that to stop Vines, which is necessarily followed by shoots of a second or third development, is to increase the disease. This appears to arise from the softness of the leaves of the second and third class of shoots.

POT CULTURE.—The conditions of air and moisture are attained by an efficient system of drainage, on which, indeed, the success of pot cultivation mainly depends. Water must be often applied, and yet, unless it passes through freely, the soil will become stagnant and heavy, and unfit for healthy vegetable life. The subject of drainage is so well treated in Dr. Lindley's *Theory of Horticulture* (1855, p. 438), that we cannot improve upon it, and shall therefore quote a passage:

"The ordinary way of putting at the bottom of the pot a large quantity of crocks is but a clumsy proceeding, and one which, if it affords an opportunity for roots to spread themselves freely, affords also a harbor for worms, slugs, wood-lice, and other vermin. To remedy this, I put at the bottom a piece of perforated zinc, an inch and a-quarter, or more, square, according to the size of the pot, so as completely to cover the hole; this may be had, for a trifle, of any brazier or tin-plate worker, and may, by the help of a strong pair of scissors or small shears, be readily cut to the requisite size. Upon this I place a small potsherd, with its convex side upwards, taking care that, by resting partly upon the zinc, it renders it immovable. I then put in a quantity of good moss, so as to form a layer of a third of an inch or more thick, when pressed together by the mould, and then proceed to finish, as usual, the operation of potting the plant. I have found this method to succeed perfectly. Constant drainage is effected; the moss, particularly with the addition of the potsherd, prevents the earth from choking the sides of the zinc, and by partial decomposition, where it is in contact with the soil, affords an agreeable receptacle for the roots of the plants in which they appear to delight. All sorts of vermin are excluded; the operation of shifting is facilitated, as the earth comes out of the pot unbroken; and it is, moreover, a much more cleanly process than the one commonly used."

Always use moss at the top of the crocks, to prevent the light soil being carried through to the shelves of the green-house—an inconvenience much felt by the ordinary method.

A GREAT POTATO COUNTRY.—Mr. Collins, of Red River county, Texas, challenges the State to beat his Irish Potato, which measures 15¾ inches in circumference one way, and 13½ the other.

CALIFORNIA WINE AND BRANDY.—The San Francisco *Price Current* remarks on this production; (the Brandy spoken of is quoted at $3 per gallon):

"California Brandy, distilled from the native grape, can now be bought in the market, and of a quality equal to the average brands of Cognac, and greatly superior to the Rochelle. James T. McDougall & Co., the pioneers of California grape Brandy, have for months been making regular sales to the trade from their distillation of last season, which amounted to the very respectable quantity of 500 octaves. Some of their brandy was shipped to New York, where it met with favor, and realized, for a first consignment, a high figure. From the grape crop

this year, it is estimated 50,000 gallons will be made, or 300 to 400 per cent. more than last year. At this ratio, three years hence, fine Brandy will be one of our exportable products."

For two years past, various classes of Wine, made from the native grape of Los Angeles, have been growing upon popular notice and favor. The *Alta California* says, it is estimated that 150,000 gallons of Wine were made in the State last year; and, from the grape crop this year, it is expected 350,000 gallons will be manufactured. A great number of new vineyards have been planted in the vicinity of Los Angeles since 1853, and the annual grape crop must have increased enormously.

The *Alta* says: "The grape chiefly grown in California, for making Wine, is of Spanish stock, and was introduced by the priests, between the years 1769 and 1780. The vine is hardy and healthy, and the berry juicy and strong. An acre of vines is calculated to yield 1,000 gallons of Wine, and never less than 800, although 400 is considered an average yield in Ohio and Europe." Almost every variety of grape known is, however, being cultivated at various points throughout the State.

Notes for the Month.

VINEYARD CALENDAR FOR OCTOBER.

BY R. BUCHANAN, CINCINNATI, OHIO.

In this latitude, October is the month of the vintage. From the first to the second week the grapes will be ripe enough to gather. All hands are now turned out to the vineyard, men and women, boys and girls, for the grape harvest is a busy and a merry time.

Each person has a knife, and two wooden buckets, the bunch of grapes is cut from the vine, and any unsound or unripe berries picked off, and thrown into one bucket, and the perfect bunch into the other. As the buckets are filled they are emptied into flour barrels, which are covered with a cloth to keep the bees and wasps out.

When a small wagon or cart load of barrels are filled, they are immediately hauled to the wine house, to keep the grapes from heating, by exposure to the sun.

In cutting the grapes, any bunch not perfectly ripe, is left on the vine to mature, and to be gathered with the last cutting, a week or ten days later. Enough grapes should be cut each day, to fill the press in the evening; which for one of ordinary size, may be 17 or 18 barrels, yielding 200 to 210 gallons of juice. This is for a moderate crop, and a vineyard of 6 or 8 acres. A large crop, and a more extensive vineyard, would of course require greater expedition in gathering, and two or more presses. The pressing is generally done in the evening. The grapes are mashed by passing the bunches through a small mill with a pair of wooden rollers, or, in a mashing tub, a vessel like an inverted churn, with a wooden beetle, breaking the skin and pulp, but *not* the seeds.

The mashed grapes are put on the press, when about one third the juice runs off without any pressure. The power is then applied, and the remainder of the juice pressed out by two or three pressings, cutting off 6 or 8 inches of the outer edge of the "pomace" and putting it on top of the mass each time. The juice from the last pressing, being dark and astringent, is put with that from the refuse grapes, to make an inferior and cheap wine.

As the juice runs from the press, it is conveyed through a gutta-percha pipe into the casks in the cellar under the wine house, and left to ferment. The casks are filled about ¾ or 5 sixths of their capacity and the bung hole covered with a cloth, that the carbonic acid gas, in the process of fermentation, may escape.

A better plan is to fix a tin syphon in the bung hole, one end being turned down into a bucket of water, so that the gas shall escape through the water; this excludes the air from the new wine when the fermentation ceases, or is feeble.

In three or four weeks it will be safe to fill the casks up bung full, and drive the bungs in *lightly*.

The "pomace" of the grapes, and the "lees" of the wine, are given to the distillers to make brandy, they retaining half the product for making it.

Straining the grapes has been abandoned, as a useless expense, and the wine fines better by the small amount of "tannin" extracted from the stems. No work in the vineyard is required after the crop is gathered, unless it may be to repair the surface drains, and trenches, if any, to prepare for fall and winter rains.

BY WILLIAM SAUNDERS, GERMANTOWN, PA.

GRAPES AND GRAPERIES.—There is no fruit-bearing plant, adapted to temperate climates, at once so available and useful as the grape; and now that cultivators seem to be settling down to a unanimity of opinion with regard to the culture of both foreign and native varieties, it may safely be predicted that the grape is to take the first rank among American fruits.

The recent valuable additions to our list of hardy and native kinds has given an impetus to their cultivation, and awakened an interest in the production of seedlings of further excellence, leaving little room to doubt that we will at no distant day, possess varieties equal to the best of any climate, and produce abundant crops with as much success and facility as we do Indian corn.

The first requisite in grape culture is a sufficient depth of porous soil. A free percolation of water through the soil is indispensable. Mere richness of soil is only of secondary importance, no amount of surface manuring will secure profitable crops on a retentive subsoil.

A sandy loam is the most suitable, although proper draining and trenching will render even clayey loams adapted for their profitable growth. The soil should be broken up at least 18 inches in depth, so that the roots may ramify in a medium somewhat exempt from external influences, and ensure a uniform healthy growth from the opening buds to the ripening of the crop. Having thus prepared the soil we would commend the following general routine of management. Procure plants not more than one year from the cutting, and prune them down to a couple of inches when planted. The treatment during the first season will consist in simply securing them to their supporting trellis. In winter prune down according to vigor; if the canes have grown to 10 or 12 feet, prune down to about half of that length. Most of the buds will produce a fruiting shoot; allow not more than two bunches on each shoot. Tying up to the trellis is all that will be necessary until the period for winter pruning arrives. During August and September it may be necessary to dust the vines with sulphur in order to prevent or check the spread of mildew. The great secret in grape growing is to preserve the foliage healthy and unimpaired until the crop is gathered.

Let the winter pruning be directed to the securance of young growths; the renewal system of pruning best encourages the growth of young strong shoots, which invariably produce the best fruit.

There is no danger of the plants overbearing, if pruned understandingly during winter and "let alone most severely" during the period of growth. Summer pinching and pruning weakens and retards growth, and diminishes the foliage necessary to ripen the fruit.

GRAPERIES.—Glass houses for exotic grapes are now built for reasonable prices, and their culture is extending accordingly. Here again the requisites of a properly prepared soil are paramount. A free, sandy loam is the best for a basis, if manures are applied let them be well decomposed and thoroughly incorporated. Bone dust and charcoal may be freely mixed with the soil, but these latter are not indispensable. Neither is it necessary to make an extensive border at the outset. A border 6 or 8 feet wide and 2½ or 3 feet in depth will afford a sufficient nourishing medium for a number of years; and additions can be made from time to time as circumstances seem to indicate its requirement. This gradual addition to a border is preferable to making it larger at first, as in the latter many of the principal advantages of a good border are lost before it is reached by the roots.

In choosing plants, select young healthy stocks—one year from the cutting is preferable to older plants; cut them down at planting to a couple of inches, and when they push into growth disbud all shoots but the strongest. Let them grow at will, do not remove a healthy leaf or twig until growth is completed for the season. If the plants have done moderately well they will have grown from 15 to 25 feet. In November prune down to 8 or 10 feet lengths. This much for the first season. The second year's growth will show a portion of fruit, leave but one bunch to a shoot. If any of the shoots indicate an exuberance of growth over the others, check it by pinching out the point, but only to equalize growth, the more foliage the better the crop. Do not be deterred from taking a slight crop the second year by any fear of destroying the future health of the plant. To form rich composts for borders, and stimulate, and pinch and prune and cut back a grape vine for 4 or 5 years before allowing it to fruit, is a waste of time and means, altogether unjustifiable, and no one having the slightest pretensions to culture would find it profitable to do so. Those who are less fortunate, or less skillful than their neighbors, sometimes find it convenient to make a virtue of a necessity, by decrying the results which they cannot attain. It is only the ordinary practice of good gardeners to fruit grapes the second year after planting, and continue fruiting each succeeding year without fear of losing a crop or weakening their plants.

The growth during the third and following years, require the same general treatment. The greater the amount of foliage, provided it is under the influence of light, the healthier the plant and the greater the crop which it will mature. Close pruning during summer is more frequently the cause of badly colored grapes, than all others combined.

FONDANTE DE MALINES PEAR

Lith. by C. Hayward, 120 Water St. N.Y.